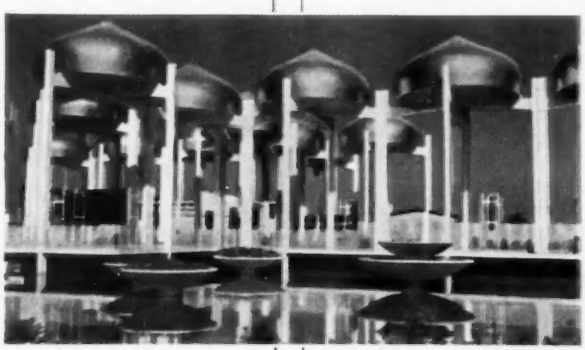




ARCHITECTURAL RECORD

5 *May 1960*

Building Types Study: Schools

An Appraisal of Unesco House by John E. Burchard

Yamasaki designs U.S. Fair in India

Office Buildings and Banks

Full Contents on Page 5



LOW OVERHEAD
• • • UNDERFOOT
SUMMITVILLE
QUARRY TILE

Wherever extreme durability and low maintenance are desired, nothing surpasses Summitville Quarry Tile. They are fire-proof, water-proof, acid-proof, never require waxing and the beautiful natural colors will never fade.

Summitville Quarry Tile is ideal for schools, institutions, commercial and industrial buildings. Available in six natural earth colors and a wide range of sizes and trim units. For full information check the yellow pages for your Ceramic Tile Contractor or write direct.



SUMMITVILLE RED | BABYLONIAN | SUNGLO | FALCON GRAY | OXFORD GRAY | PALOMINO

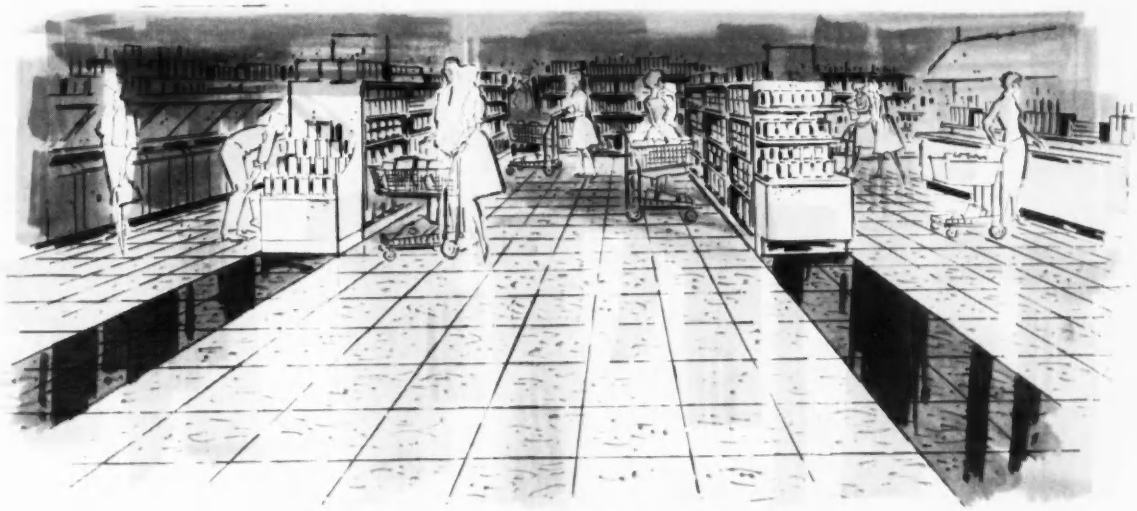
GLAZED QUARRY TILE | FLOOR BRICK

Summitville Tiles, Inc.

SUMMITVILLE, OHIO

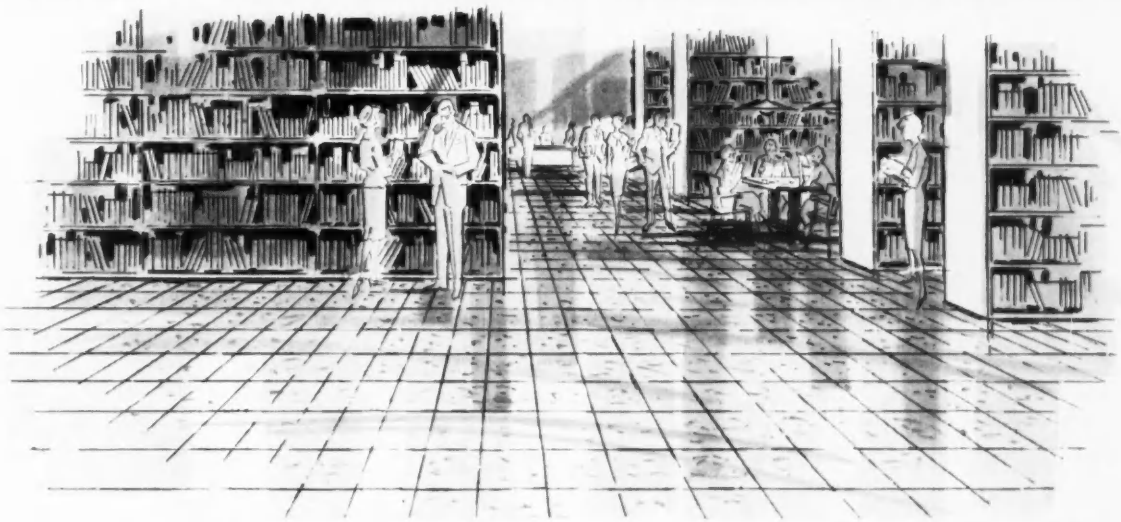
12 VENEER | TEXTURED QUARRY TILE

MEMBER: TILE COUNCIL OF AMERICA, INCORPORATED



all ways specified with pride...

GOODYEAR DELUXE TRUE VINYL FLOORING



Tough enough for heavily trafficked supermarkets—handsome enough for prestige installations—and a solid tribute to your excellent judgment.

GOODYEAR DELUXE TRUE VINYL FLOORING is *top-to-bottom deep* in quality—color—pattern. Its homogeneous construction and compounding are uniform, superior and solid—thanks to Goodyear's precise quality control.

Its good looks are *locked in* to last the long life of the floor. Won't fade—wear off or wash off. And GOODYEAR DELUXE TRUE VINYL FLOORING *keeps* its surface radiance with remarkably little care. Doesn't require waxing. Practically pays for itself in maintenance savings alone.

Available in the versatile 1/8" gauge—in striking marbleized styles and attractive modern shades.

Check the "specs" for your next project—and see how GOODYEAR DELUXE TRUE VINYL FLOORING meets your requirements—all ways. For full information without obligation, write:
Goodyear, Flooring Dept. Q-8111, Akron 16, Ohio

Watch the award-winning Goodyear Theater on TV every other Monday evening

FINE TRUE VINYL FLOORINGS BY

GOODYEAR

BETTER DESIGN

Modern "no penthouse" elevator helps you plan more attractive buildings while economizing on construction

Don't be saddled with the design problem of an unsightly elevator penthouse on your buildings of six stories and less.

You can eliminate this expensive superstructure . . . get a clean, unbroken roofline . . . by specifying the Rotary Oildraulic Elevator. Because it's pushed up from below, not pulled from above, this modern elevator requires no overhead machinery and, therefore, no elevator penthouse.

FLEXIBILITY AND ECONOMY

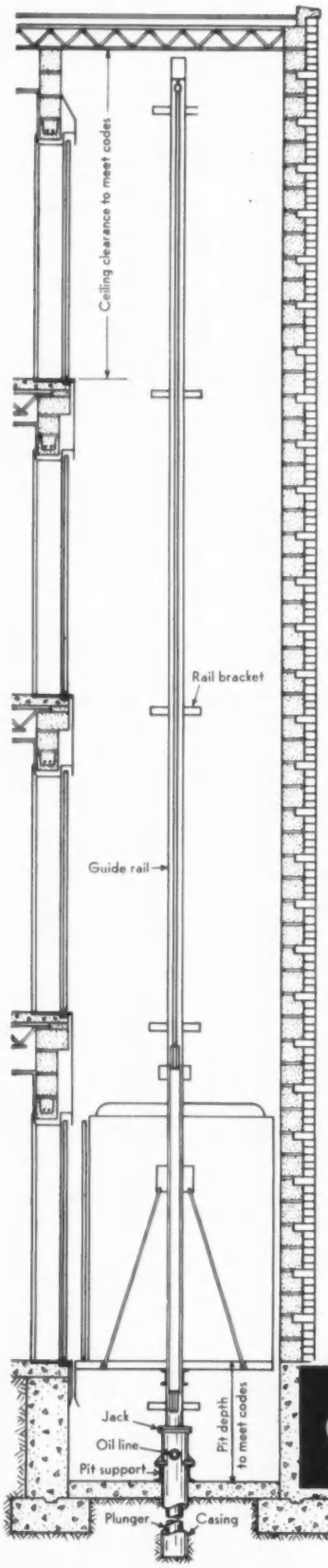
In fact, no special machine room is necessary, thus providing further savings in construction costs and greater flexibility in building design. With a powerful oil-hydraulic plunger supporting the elevator and its load, less massive, more economical elevator shaft sidewall design is possible.

Safe, smooth elevator car travel and ample speeds are assured by the superior Rotary power unit and Oildraulic Controller. This Controller is an exclusive Rotary development combining all necessary valves in one compact unit for absolute precision in operating adjustments.

PASSENGER AND FREIGHT

Modern control systems for operation with or without attendant are available to suit any traffic volume and pattern. Distinctive passenger cabs and entranceways enhance building interiors. Rotary Elevators are unequaled for freight service, with capacities to 100,000 lbs. or more possible.

The oil-hydraulic principle provides an extremely high level of efficiency and keeps maintenance and operating costs to a minimum. Rotary Oildraulic Elevators are available nationally through a distributor organization offering prompt, expert assistance on plans and specifications. Mail the coupon for more information . . . or look for "Rotary Oildraulic" under "Elevators" in the yellow pages of your phone book. See our catalog in Sweet's Files.



HOISTWAY ELEVATION SHOWS SIMPLIFIED CONSTRUCTION

The modern elevator for modern buildings

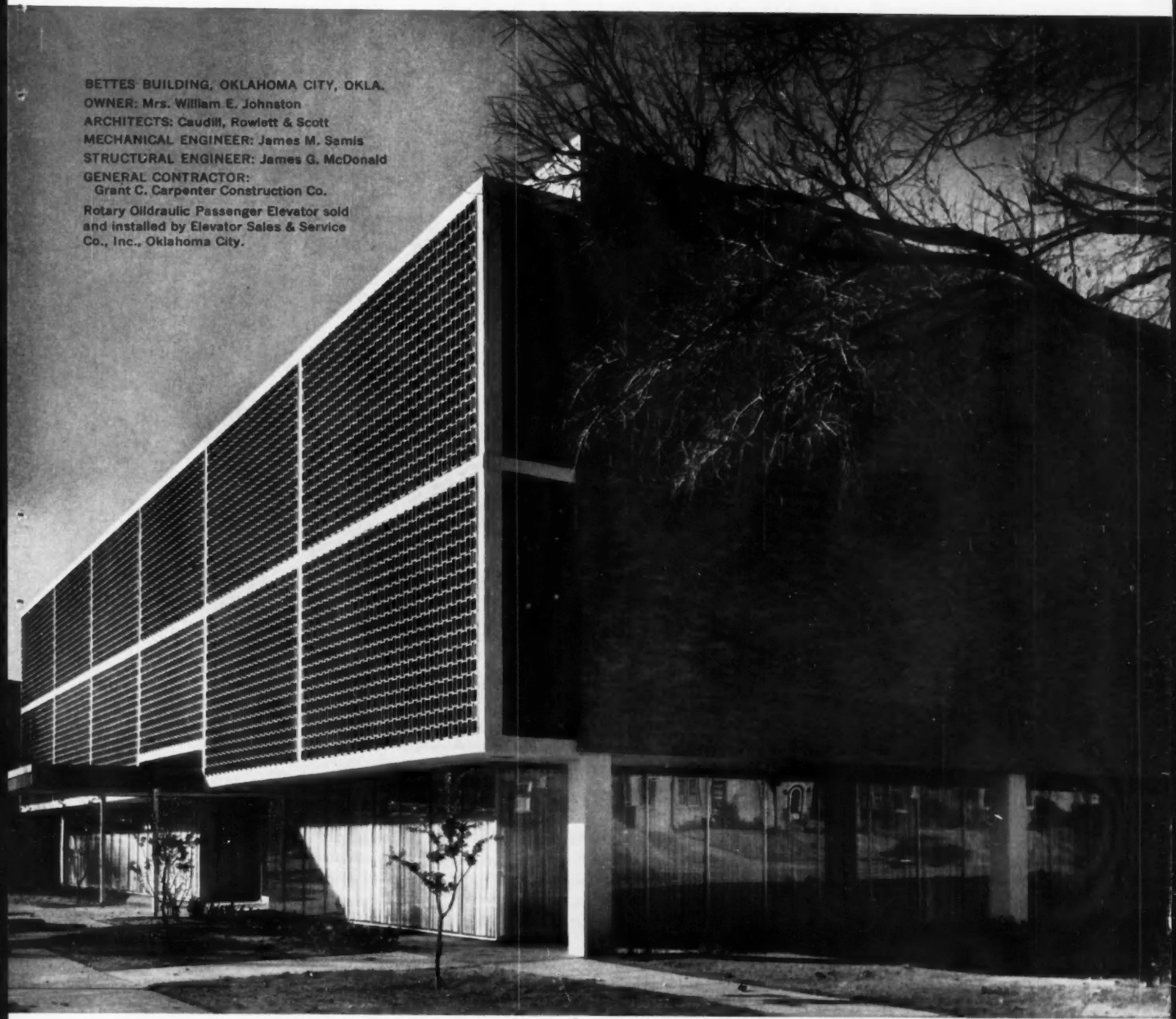
Rotary®

OILDRAULIC®

ROTARY LIFT COMPANY, *Division of Dover Corporation*
Memphis, Tennessee—Chatham, Ontario

First name in oil-hydraulic passenger and freight elevators—industrial lifting devices—auto lifts.

AT LOWER COST



BETTES BUILDING, OKLAHOMA CITY, OKLA.
OWNER: Mrs. William E. Johnston
ARCHITECTS: Caudill, Rowlett & Scott
MECHANICAL ENGINEER: James M. Semis
STRUCTURAL ENGINEER: James G. McDonald
GENERAL CONTRACTOR:
Grant C. Carpenter Construction Co.
Rotary Oildraulic Passenger Elevator sold and installed by Elevator Sales & Service Co., Inc., Oklahoma City.

ELEVATORS

Passenger and Freight



MAIL FOR DATA FILE

Rotary Lift Company
1103 Kentucky, Memphis 2, Tenn.

Please send data file on passenger ☐ freight ☐ elevators.

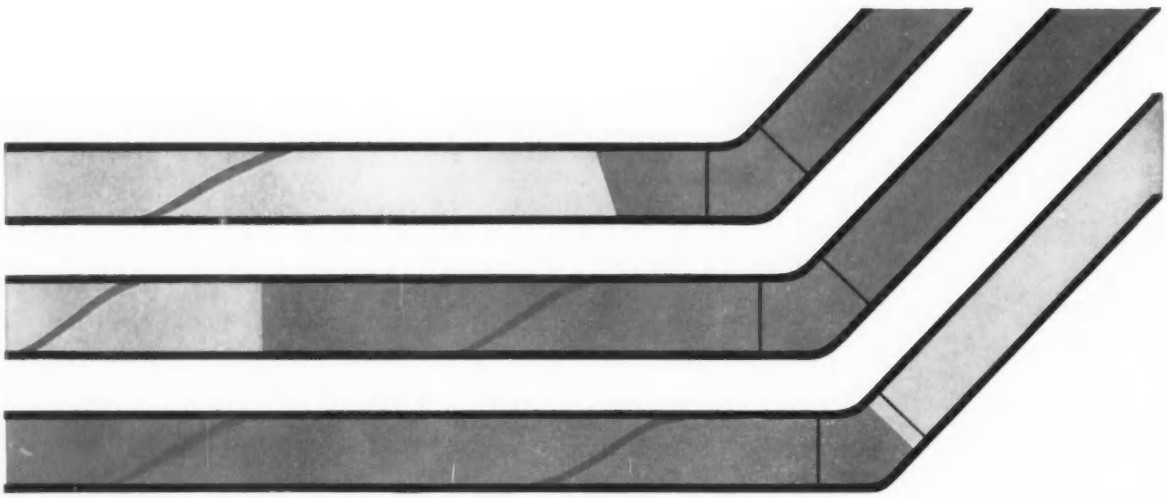
Name.....

Address.....

City.....

State.....

4-D WROUGHT IRON STEAM RETURN LINES



STEAM CONDENSATE CORROSION: the cause, the effect, and a suggested safeguard

4-D represents the most significant development in the history of wrought iron metallurgy. It was achieved by substantially increasing the deoxidation of the base metal, slightly increasing the phosphorous content and using a more siliceous iron silicate. Result is increased corrosion resistance, improved mechanical and physical properties.

Write for new 4-D Wrought Iron literature and our special report, The Use of Wrought Iron in Steam Condensate Lines. A. M. Byers Company, Clark Building, Pittsburgh 22, Pa.

WHAT CAUSES STEAM CONDENSATE—Steam, losing its heat, turns to moisture as temperature drops below saturation level. This condensate is distilled water, greedy for gases. Any gas in the steam is readily absorbed into this condensate as it cools. The condensate becomes violently corrosive to ordinary piping materials, depending upon the percentage of free CO_2 plus O_2 in the steam.

EFFECT OF STEAM CONDENSATE ON PIPE—Carbon dioxide is the primary cause of return line corrosion. Like oxygen, carbon dioxide is present in all raw waters and may enter the boiler with the feed water. Most of the carbon dioxide found in the steam cycle results from decomposition of the bicarbonate or carbonate content of the boiler feed water. Build-up of insoluble products of corrosion—particularly in smaller lines—may plug the pipe and render it useless. Corrosion may cause grooving, channeling, pitting, completely penetrating the pipe wall.

A PIPING MATERIAL THAT COMBATS IT—New 4-D Wrought Iron is a two-component metal consisting of high purity iron and iron silicate fibers. There are over 250,000 non-rusting glasslike fibers to every cross-sectional square inch. The purity of the iron itself, plus the protection of the iron silicate fibers are a mighty formidable deterrent to steam condensate corrosion and its deleterious effects.

BYERS 4-D WROUGHT IRON

ARCHITECTURAL RECORD

May 1960

THE RECORD REPORTS: *Perspectives 9*
Buildings in the News 10
Architecture Abroad 14
Meetings and Miscellany 25
Washington Report by Ernest Mickel *54*
Washington Topics by Ernest Mickel *56*
Construction Cost Indexes 60
Required Reading 64
Calendar and Office Notes 308
Current Trends in Construction 384

UNESCO HOUSE APPRAISED
by John Ely Burchard *145*

STUDENT CENTER FOR BIG CITY UNIVERSITY
The Loeb Student Center New York University New York, N.Y.
Harrison & Abramovitz, Architects *157*

TWO BANKS
The State Bank of Clearing Chicago, Ill. Harry Weese & Associates, Architects *163*
The First National Bank of Miami Miami, Fla. Weed Johnson Associates, Architects *169*

GOLDEN ARCHITECTURE STEALS SHOW
U. S. Pavilion, World Agricultural Fair New Delhi, India
Minoru Yamasaki & Associates, Architects and Engineers *175*

SMALL OFFICE BUILDINGS
St. Lawrence Seaway Development Corp. Massena, N.Y.
Sargent-Webster-Crenshaw and Folley, Architects *179*
Maytag Aircraft Corp. Colorado Springs, Colo. Lusk and Wallace, Architects *182*

HOUSES
Wegner House Tacoma, Wash. Robert Billsbrough Price, Architect *185*
House Highland Park, Ill. Edward D. Dart, Architect *188*
Cook House Friendswood, Texas Bolton and Barnstone, Architects *190*

BUILDING TYPES STUDY 282: *Schools 193*
Schools for Tomorrow by Educational Facilities Laboratories, Inc. *194*
Sarasota Senior High School Sarasota, Fla. Paul Rudolph, Architect *198*
Hilltop Elementary School Wyoming, Ohio
Charles Burchard, A.M. Kinney Associates, Architects and Engineers *203*
Robert E. Lee Senior High School Tyler, Texas
Caudill, Rowlett & Scott and Bruce & Russell, Associated Architects *206*
Smithtown Central High School Smithtown, N.Y. Ketchum and Sharp, Architects *210*
Lawless Area Junior High School New Orleans, La. Charles R. Colbert, Architect *213*

NEW LIBRARY IN THE CLASSIC TRADITION
University of South Carolina Columbia, S.C.
Lyles, Bissett, Carlisle and Wolff, Architects Edward D. Stone, Associate Architect *217*

ARCHITECTURAL ENGINEERING
Introduction 223
Parking Garage Holds 500 Cars and a Hill 224
Forgotten Engineering: Post and Lintel Postdated by Alan Burnham *217*
Harnessing the Computer for Special Structures
by Kurt Eisemann, Saul Namyet and Lin Woo *232*

PRODUCT REPORTS *234*

OFFICE LITERATURE *236*

TIME-SAVER STANDARDS: *Warm-Air Heating and Air Conditioning: 7, 8, 9*
by S. Konzo and E. J. Brown *239, 241, 243*

ADVERTISING INDEX *386*

Cover:

Top: "The Wall of the Moon," Unesco House, Paris. By Joan Miró and Llorens Artegas.
Bottom: U.S. Pavilion, World Agricultural Fair, New Delhi, India. Minoru Yamasaki & Associates, Architects and Engineers. Photo by Minoru Yamasaki.

ARCHITECTURAL RECORD
May 1960
Vol. 127 No. 5

© 1960
by F. W. Dodge Corporation, with all rights reserved.
Copyright not claimed by F. W. Dodge Corporation in 4-color illustrations on front cover.
Copyright not claimed by F. W. Dodge Corporation in 4-color illustrations on pages 149, 152, 153, 154, 155, and used by permission of and copyright 1959 by A.D.A.C., a.s.b.l., Brussels, tous droits réservés.

ARCHITECTURAL RECORD (combined with AMERICAN ARCHITECT and ARCHITECTURE) is published monthly, except May 1960 when semimonthly, by F. W. Dodge Corporation, 10 Ferry Street, Concord, New Hampshire. Editorial and executive offices: 119 West 40th Street, New York 18, New York. Western editorial office, 2877 Shasta Road, Berkeley 8, California.

$5.50 per year in U.S., U.S. Possessions and Canada: *Second-class mail privileges authorized at Concord, N. H.*

(Western Edition)

Coming in the Record

LIGHTING AND ARCHITECTURE

Can lighting become as effective an element of design as it is a tool for seeing tasks? A major series on lighting to begin next month not only asserts that it can, but delineates specific techniques for making it happen: basic data for communication between architect and engineer.

BUILDING TYPES STUDY: CHURCHES

The postwar years have seen a great renaissance of church building in France, and perhaps the greatest opportunity in modern times for so many architects in any country to make simultaneous statements in religious architecture. The study will examine the results, both in a critical article and in photographs of some of the most significant new churches.

SEMI-ANNUAL INDEX

Indexes to RECORD *content are published semi-annually in the magazine, and next month's issue will have the index for the first six months of 1960. Publication of the semi-annual index was resumed in June 1958 after a lapse of two and a half years. Indexes for this period were published separately in 1958 and are available on request.*

OTHER F. W. DODGE SERVICES: Dodge Reports—Dodge Construction Statistics—Sweet's Catalog Services—Dodge Books—Dodge Mailing Service—The Modern Hospital—The Nation's Schools—College and University Business—Hospital Purchasing File—Chicago Construction News—Daily Pacific Builder (San Francisco)—The Daily Journal (Denver)—Real Estate Record & Builders Guide—Dow Building Cost Calculator.

Members of Audit Bureau of Circulations and Associated Business Publications. ARCHITECTURAL RECORD is indexed in Art Index, Industrial Arts Index and Engineering Index.

Every effort will be made to return material submitted for possible publication (if accompanied by stamped, addressed envelope), but the editors and the corporation will not be responsible for loss or damage.

Subscription prices: Published monthly except May 1960 when semimonthly. U. S., U. S. Possessions and Canada: $5.50 per year; other Western Hemisphere countries, to those who by title are architects and engineers, $9.00 per year. Single copy price except Mid-May 1960 issue $2.00; Mid-May 1960 issue $2.95. Beyond Western Hemisphere, to those who by title are architects and engineers, $9.00 per year for 12 monthly issues not including Mid-May 1960 issue. Subscriptions from all others outside U.S., U.S. Possessions and Canada for 12 monthly issues, not including Mid-May issue, $24.00 per year. Change of address: subscribers are requested to furnish both the old and new address, sending if possible stencil impression from magazine wrapper and to include city delivery zone number, where such is used, for the new address. Allow four weeks for change.

Staff of Architectural Record

EDITOR
Emerson Goble, A.I.A.

CONSULTING EDITOR
John E. Burchard

SENIOR EDITORS
James S. Hornbeck, A.I.A., *Features*
William Dudley Hunt, Jr., A.I.A.
Elisabeth Kendall Thompson, A.I.A., *West*

ASSOCIATE EDITORS
Robert E. Fischer, *Engineering*
Florence A. van Wyck, *Production*
Jeanne M. Davern, *Assistant to the Editor*
Herbert L. Smith, Jr., A.I.A., *Houses*
Mildred F. Schmertz, *Design*
Grace M. Anderson
Margaret F. Farmer, *Engineering*

CONTRIBUTING EDITORS
Ernest Mickel, *Washington*
Dan Street, *Washington*

EDITORIAL ASSISTANT
Caroline F. Brady

DESIGN
Eugene H. Hawley, *Director*
Sheila Dressner
Julia Lee

CONSULTANTS
George Cline Smith, *Economics*
Clyde Shute, *Statistical*
Clifford G. Dunnells, Jr., *Field Research*
Daniel J. Howe, Jr., *Public Relations*
Edwin W. Magee, Jr., *Industry Relations*
Sigman-Ward, *Drafting*

PUBLISHER
Robert F. Marshall

PUBLISHING ADVISER
H. Judd Payne

CIRCULATION MANAGER
Marshall T. Ginn

Officers of F. W. Dodge Corporation

HONORARY CHAIRMAN OF THE BOARD
James McV. Breed

CHAIRMAN OF THE BOARD
Paul Abbott

VICE CHAIRMAN OF THE BOARD
Chauncey L. Williams

PRESIDENT
Irving W. Hadsell

EXECUTIVE VICE PRESIDENTS
Julius T. Little, Robert F. Marshall, T. Oliver Morgan, O. O. Paulsell

EXECUTIVE VICE PRESIDENT AND TREASURER
Howard M. Thompson

VICE PRESIDENTS
Robert M. Cunningham, Jr., William H. Hatch, Jr., H. Judd Payne, Richard H. Ray, George Cline Smith

REGIONAL VICE PRESIDENTS
Miles W. Beatty, Carl S. Bennett, Robert G. Bingham, Clinton C. Bennett, Roy J. Hard, Alton W. Kitchens, Arthur D. Prior

ASSISTANT VICE PRESIDENT AND COMPTROLLER
Edwin H. Freed

ASSISTANT VICE PRESIDENTS
Walter F. DeSaix, Clifford G. Dunnells, Jr., Gault Eastman, Clyde Shute

SECRETARY
John S. Brittain

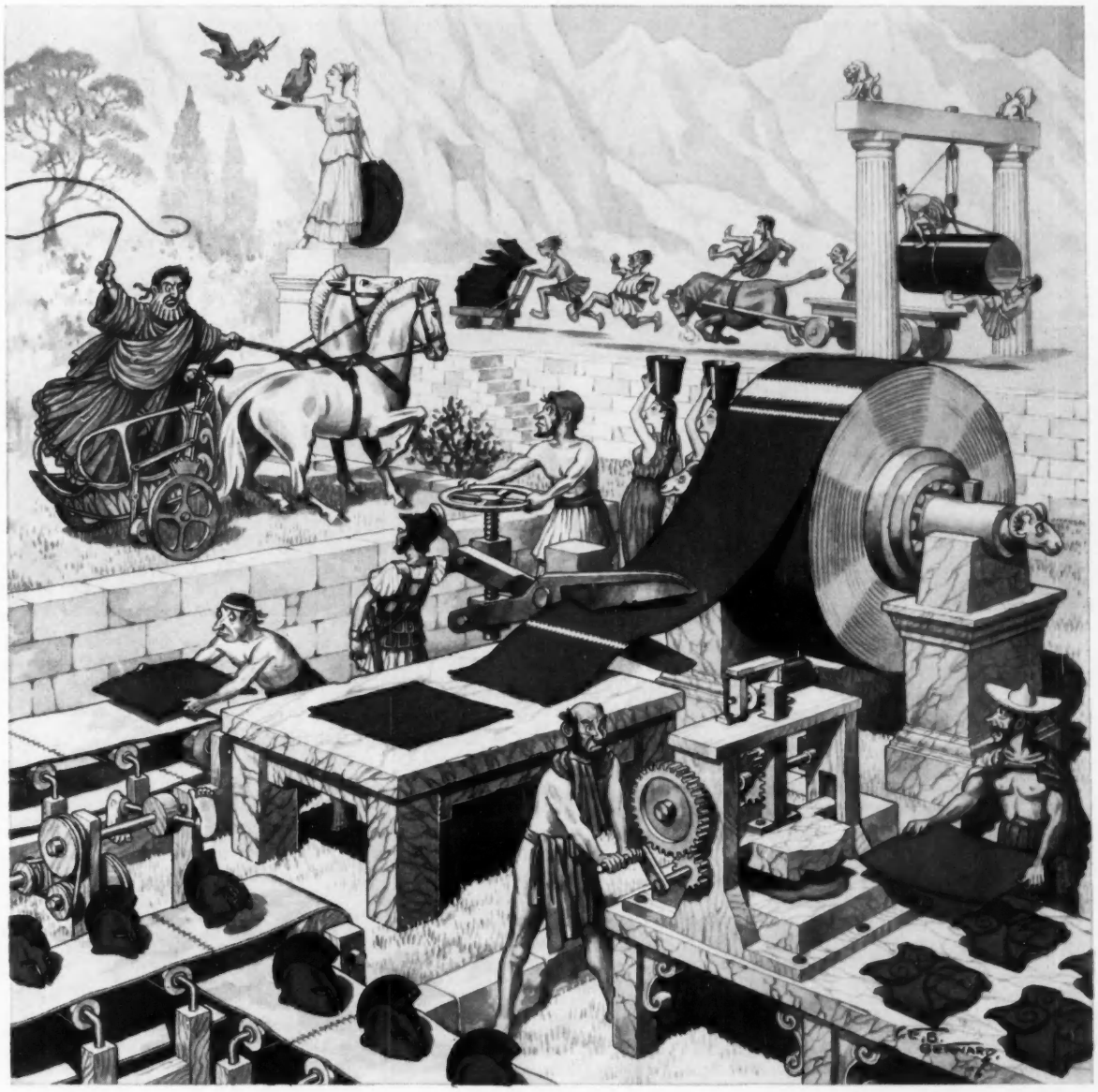
ASSISTANT SECRETARIES
William C. Breed, Jr., George W. Morgan

ASSISTANT TREASURER
Irving B. Satin

Now it can be told

This engraved marble tablet recently uncovered in one of the long-lost Phrygian caves shows how Midas fooled the public. This stuff wasn't 14-karat at all. The "Midas Touch" is nothing but a myth. Midas used ColorRold* Stainless Steel, developed by Washington Steel Corporation. Gotta give the old charlatan a lot of credit though—he knew a good thing when he saw it.

MIDAS SPECS: 2 cubits × .025″ ± .001″ × coil, Type CCCII (302), Rb 82 max. Sunbrite gold, 50 glossimeter, 1 mil, paper interleaved, skidded for open oxcart only. 12 × 10^6 drachma max. wt. per coil.



*ColorRold, an organic coated stainless steel, comes in eleven harmonizing colors, can be formed and drawn or textured and highlighted in an infinite number of designs and effects, now available for your architectural or product needs.

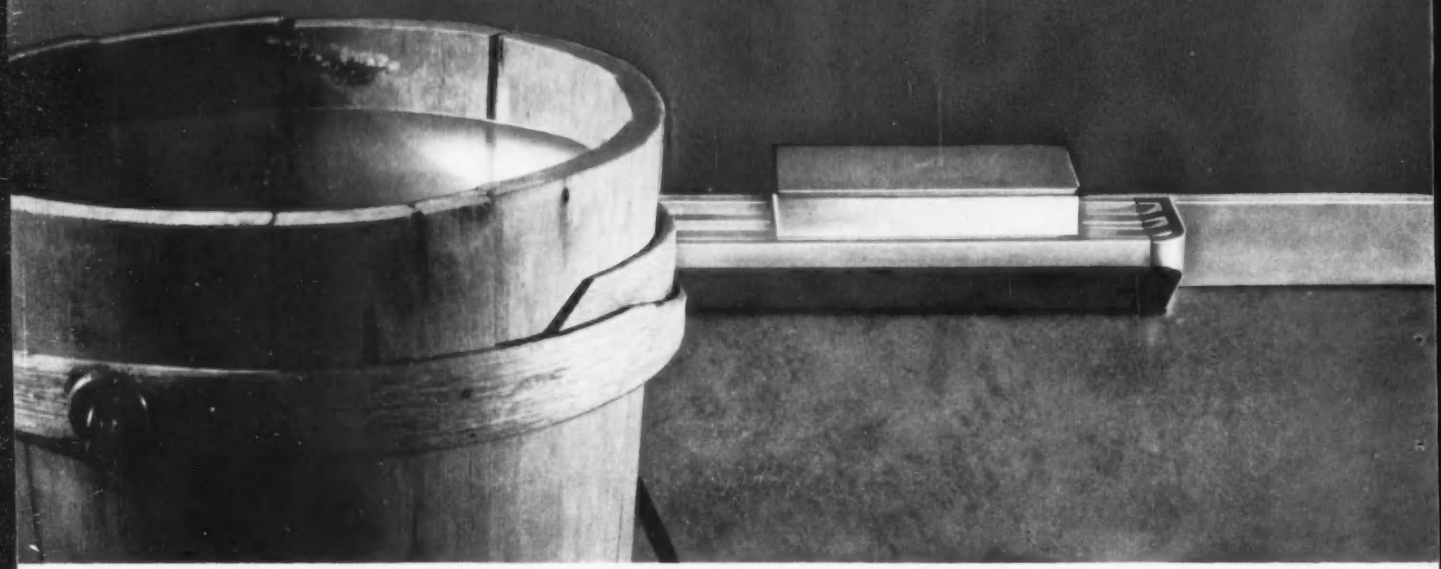
WASHINGTON STEEL CORPORATION

and ColorRold®

PRODUCERS OF *MicroRold®* STAINLESS STEEL

WOODLAND AVENUE WASHINGTON, PA.

permanently* washable
Nucite glass chalkboards



Scrub all you want; water can't harm inert Nucite glass chalkboards

The only way water affects Nucite glass chalkboards is to make them cleaner. Nucite is made of a vitreous enamel writing surface integrally fused to a tempered, polished plate glass. It *can't* warp, *can't* rust, *can't* rot. And you could scrub Nucite continuously without fading out the color or wearing down the fine abrasive "tooth" of the writing surface. It's the one *permanent* chalkboard.

No worry about a bucket chipping the surface, either. Moderate impacts won't cause flaking as they do when porcelain is bonded to a less compatible surface than glass. And Nucite resists *heavy* impacts better than most other chalkboards. It's similar to the porcelain panels used in curtain wall construction. Cost? It's less than the cost of high-grade, heavy gauge steel chalkboards.

We recommend frequent washing for Nucite – with water, or better yet, with K_2 Kleer-Kleen chalkboard cleaner. Washing maintains the superior legibility provided by the close-grained writing surface . . . the five sight-engineered colors. Nucite is the finest writing board available. Send for samples . . . or see our catalog in Sweet's, under $\frac{23e}{Ne}$. *Agents and distributors in all principal cities.* Write for the name of the one nearest you.

Apex Cork bulletin board is washable, too. Impregnated – not just surfaced – with plastic, it quickly wipes clean . . . *stays* washable for years. Completely self-healing. Unusually smooth and uniform. Five colors. Sizes to 79 inches by 90 feet. Ask your New York Silicate distributor. And ask him about Nucite glass, steel, Formica, Silicate composition or slate chalkboards, or about glass door and changeable letter bulletin boards. He'll give you unbiased comparisons–they're all made by New York Silicate.

* **In more than 20 years and 25,000 installations, we have never been called upon to fulfill the following guarantee: the surface of Nucite glass chalkboards is guaranteed for the life of the building against fading, warpage, or becoming slick or shiny under normal classroom use. • Should any Nucite glass chalkboard break within 20 years after installation, outside of willful or accidental damage, it will be replaced free of charge.**

NEW YORK BOOK SLATE COMPANY, INC. **SILICATE**
600 Old Country Road
Garden City, New York

Town Planning Troubles

We have received a request for information from a young man in a town which shall remain nameless. "Our city," the young man writes, "is in the mist of a redevelopment program. . . ."

Responsibility—and Faith

If our cities are ugly and our buildings fine-art-less, it is not, says John Noble Richards, because we have no means or talents to make them otherwise. What is missing is a sense of responsibility, and a faith in our capacities. Speaking at the Gold Medal Inaugural Dinner of New York's Architectural League last month, Mr. Richards said: "It is this word, responsibility, I believe, which is still lacking, or at least not sufficiently strong, in the vocabulary of the building arts today. As we moved out of the eclectically over-decorated beaux-arts salons into the functional glass and steel space of the international style, we resolved that art was no longer to be for art's sake alone. For a short period, art was to be a matter of social significance. . . . I would say neither the work of the individual architect or artist nor the support of the public can wait for some noble social goal to descend from heaven and wave a flag in front of us to lure us on. I would say art *is* a social goal *in itself*. It is a matter of our responsibility to society. The exalted, isolated genius cannot discharge this responsibility alone. The building arts require the collaboration between the master builder, the artist and the public. This collaboration is as much a matter of responsibility as the joint efforts of numerous experts on behalf of public health, or mental health, or the maintenance of law and order. This sense of responsibility . . . is awakening. It has, I believe, but one requirement. . . . We must have faith in our time—the faith that our efforts on behalf of the building arts and a more beautiful man-made America can be as successful and as great as any in the periods before us. Quite possibly they are."

"Fairest Cities"

The New York Times not long ago conducted an informal poll among five architects to determine "the fairest city of them all." There was no doubt after the ballots were counted that the winner, in a landslide, was Venice: not one of the five failed to mention her. Her only real competition was Paris, with three mentions, followed by Rome and New York with two each. Individual ballots showed that: Sir Hugh Casson has three equally lovely favorites—Peiping, Jaipur and Venice; Wallace K. Harrison also has three favorites—"New York at sunset, New York at noon, New York at night"—though he admits to liking Isfahan, Athens, Venice and Istanbul; Philip Johnson rates New York first, then Venice and Rome; Jose Luis Sert is torn between Paris, Venice and San Francisco; and Edward D. Stone loves Rome above all, then Venice and Paris, and still cherishes an affection for Leningrad and Bath.

The Townhouse Rides Again

The townhouse—not the townhouse as the city dwelling of a man with a country house, but the townhouse as a "low-rise, row type of building with a common wall between individual houses, in which the family occupies most of the land within its own property lines"—appears to be making a come-back. In Chicago, at least, the come-back seemed clear enough to Morton Bodfish, chairman and president of the First Federal Savings and Loan Association of Chicago, to cause him to take a banker's look at this building type. The advantages for the owner, Mr. Bodfish concluded, include an end to commuting for the suburbanite, increased privacy for the apartment dweller, and financial savings for both. For the community, townhouses may be a solution to overcrowding urban land available for residential building, if used with high-rise housing; and they should help to stabilize the tax base by encouraging middle-income families to remain, or move back to, the city. Meanwhile, whatever happened to the lowly row house?

Robie House: A Progress Report

Sighs of relief were heard in the architectural world a couple of years ago when Webb & Knapp saved Frank Lloyd Wright's Robie house from the demolition crew, and announced its intention to use the house as its offices. A recent report from Chicago indicates that the new owners are giving the house the kind of loving care and practical attention a treasure deserves. So far, the brick work has been inspected and tuckpointed; the roof and gutters have been repaired, and downspouts added; and heating units have been repaired, and new ones added. Further repairs are projected.

Tastemakers Organize

The Joneses are making it easier for the rest of the world to keep up with them. The American Institute of Approval has been formed to see that the American housewife at least knows whether or not the product she buys is in "good taste." The Institute is the brain child of Lady Malcolm Douglas-Hamilton, who found, when she moved from her native Boston to London, that European women thought American products *not* in good taste. The Institute will eventually consist of a panel of 75 members described vaguely in one newspaper account as "society women," and described by Lady Douglas-Hamilton as women who have "led cultivated gracious lives"; most of the members have been selected. Upon request, panel members will consult with manufacturers, for a fee; if the panel considers that the product in question deserves it, it will receive an "Award of Approval."

A Record Special Report

Annual Reynolds Award Goes, Again, To an Entry From Abroad

For the fourth time in its four-year history, the R. S. Reynolds Memorial Award, given for "the most significant contribution to the use of aluminum, esthetically or structurally, in the building field," has gone to a building abroad. The American Institute of Architects, which administers the award program, has announced that the 1960 prize of $25,000 has been taken by Swiss architect Jean Tschumi, for his design of the offices of Nestlé's International Headquarters at Vevey, Switzerland (see photographs, pp. 12-13).

The jury, which was composed of Walter Gropius, F.A.I.A., as chairman, Philip Will Jr., F.A.I.A., Arthur Fehr, F.A.I.A., James M. Hunter, F.A.I.A., and C. E. Pratt, F.R.A.I.C., was particulary impressed by Mr. Tschumi's "sensitive" and imaginative use of aluminum, and had this to say of the building in its official report:

"The entire building is enriched by the relief effect of its various components, causing ever-changing shadows, particularly by the varying depth of the profiling. The silhouette of the building is enhanced by the transparent first floor and the deeply undercut penthouse under the roof. The building respects its site in which it is at home. The sensitive sculptural handling of the concrete supports harmonizes remarkably with the profiles of the aluminum canopies and sun shades.

"Jean Tschumi has made sensitive use of aluminum in a previously little explored manner. This is particularly true of the entrance canopies which make use of a combination of extrusions and aluminum sheets, uniquely an aluminum accomplishment. By use of very delicately designed and restrained vertical baffles and sun shades which vary according to the different orientation, he breaks up the monotony of usual fenestration. It is interesting to note that the unity of this design is not impaired by the variation and intensity of use of sun-control devices on different elevations. The sun shades never obstruct the view from within.

"Tschumi relieves the monotony of rectangular geometrics with curved façades. The end walls of his Y-shaped building are witty and convincing. The round, aluminum-sheathed double staircase is also worthy of mention for its excellent design. . . .

"Jean Tschumi's design has utilized aluminum consistently throughout the building. The novelty of its usage is not of a sensational quality, but one of quietness and serenity which enhances his architectural conception."

Most of the jury members took advantage of an opportunity to add their own comments to their joint report. Dr. Gropius' addendum dwelt mainly on Mr. Tschumi's accomplishment. Although other entries, including U. S. entries, had displayed first-rate design, "the jury's main task," he said, "was to find something creative in aluminum." The Nestlé headquarters is a building which does display a new use of aluminum, he said, and which could only have been done with that material. He added that Mr. Tschumi is a "real, new discovery," who had found imaginative, rich and interesting solutions on all sides of his building.

Where Was The U. S.?

The jury also felt constrained to comment, both together and severally, on the conspicuous absence of the United States winners in a competition based on the uses of aluminum in architecture. In the three earlier competitions, the award went to Australia (to architects Yuncken, Freeman Brothers, Griffiths and Simpson for the Sidney Myer Music Bowl at Melbourne—AR, June 1959, p. 12), to Belgium (to architects T. and F. Hoet-Segers, H. Montoies, R. Courtois, J. Goossens-Bara and R. Moens de Hase for the Transportation Pavilion at the Brussels World's Fair—AR, June 1958, p. 16), and to Spain (to architects Cesar Ortiz-Echague, Manuel Barbero and Rafael de la Joya for the visitors' center of the S.E.A.T. automobile factory at Barcelona—AR, May 1957, p. 16).

The United States is, after all, the country where Hall discovered the electrolytic process of extracting aluminum; it leads the world in the production of aluminum, and about a quarter of its production goes into building and construction. On its failure so far to take an award in the Reynolds program, the report remarked: "The jury was favorably impressed by the general high standard of design of most entries, some of which were elegant and well-proportioned. However, the jury feels that the use of aluminum for curtain walls or as sheathing material is well established and of itself not sufficient to qualify under the terms of the award. The jury assumes that the lack of imaginative use and sensitive detail in some U. S. entries may reflect the ready availability of standard and pre-engineered building components in the United States and the restraints imposed by U. S. building codes and insurance requirements."

In the additional comments made by the individual jury members, Mr. Will, Mr. Hunter and Mr. Fehr all said flatly that U. S. building codes lag considerably behind technical advances. Mr. Will also pointed out that the European architect must invent much of his detailing, while here most of the inventing is done by manufacturers; "more and more buildings in the U.S. are becoming assemblies of cataloged items."

continued on page 12

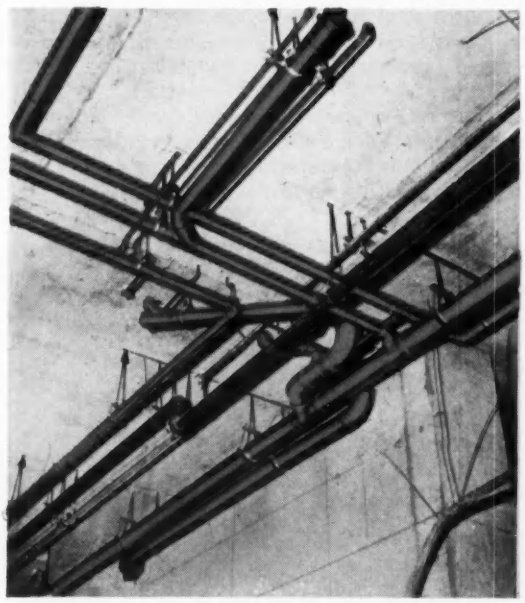


In addition to the $25,000 which the award carries, Mr. Tschumi received this aluminum sculpture, especially commissioned from William Zorach for the 1960 winner. It is called "Ascension"



EASY TO HANDLE. Mechanic easily connects a length of 6-inch copper tube. More than 16,000 pounds of Anaconda Copper Tube, Type M, in sizes up to 8 inches, was used for the sanitary drainage systems. Architect and Engineer: California State Division of Architecture. Mechanical Engineer: Division of Architecture. General Contractor: Robert E. McKee, Inc., Los Angeles. Plumbing Contractor: E. O. Nay, Inc., Pasadena.

COMPACT COPPER SANITARY DRAINAGE SYSTEM GIVES NEW CALIFORNIA HOSPITAL MORE USABLE SPACE



CLOSE WORK LIKE THIS is possible only with copper tube. Water and drainage lines hug the ceiling, giving ample basement headroom. Even in tight quarters, connections are easy to make. Sizes in this photo range from ¾" water lines to 4" for drain and vent lines.

Copper tube sanitary drainage lines in the hospital building and administration wing of the new Fairview State Hospital at Costa Mesa, California, eliminated wasted space in furred areas and allowed ample headroom in the basement. Equally important to the project owners, however, was the fact that copper tube drainage systems are easier to install, are long lasting, require less maintenance than other materials.

Copper tube was used also for the hot and cold water lines and for the radiant heating system.

TREND TO COPPER "The factors important to us as mechanical contractors are the work-saving features of copper tube. It has proved to be easier to handle, more adaptable to space problems, less trouble to test, and as a consequence, faster to install than other methods considered standard." B. J. Sabin, Manager, E. O. Nay, Inc., plumbing contractor on Fairview State Hospital.

Specify Anaconda Copper Tubes and Fittings – Types K and L for water supply and heating lines; Type M and the new lighter weight Type DWV for sanitary drainage systems. Anaconda wrought and cast solder-joint fittings for pressure and drainage applications. Write for Publication C-33. Address: The American Brass Company, Waterbury 20, Conn. In Canada: Anaconda American Brass Ltd., New Toronto, Ontario. 5907

ANACONDA® **COPPER TUBE AND FITTINGS**

PRODUCTS OF THE AMERICAN BRASS COMPANY

Available through plumbing wholesalers



REYNOLDS AWARD: NESTLÉ HEADQUARTERS continued

". . . the end walls are witty and convincing . . ."



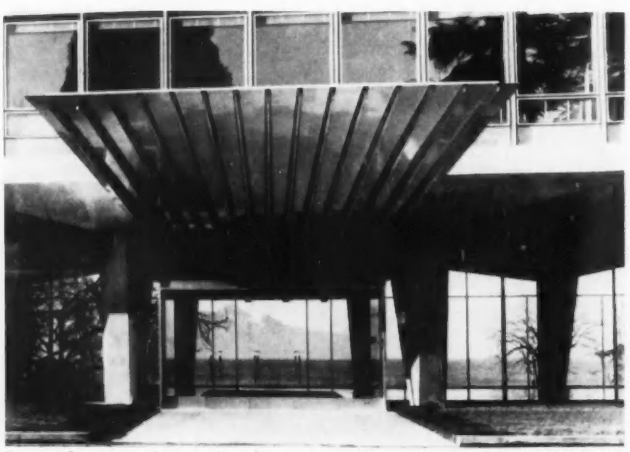


In designing the Nestlé building, the architect aimed at an impression of lightness, and a structure which would reflect, figuratively and literally, the near-by lake and mountains. He also sought an expression of the rigid module.

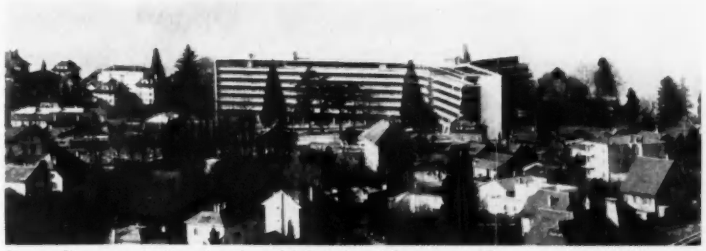
The Y-shaped plan developed out of a desire to give all offices the benefit of the superb view towards the mountains and Lake Geneva. The "transparent" ground floor also takes advantage of the view by allowing motorists on the highway in front of the building to see through.

Besides being equipped with a high-velocity air conditioning system, the building shows particular care given to sun shields; on the west façade, vertical louvers (aluminum) fastened to each mullion are movable, while on the east side they are fixed; on the south façade, the louvers support horizontal sun-breaks. Further temperature control is effected by the double-glazed fixed windows; aluminum Venetian blinds can be lowered between the inside and blue-tinted outside panels.

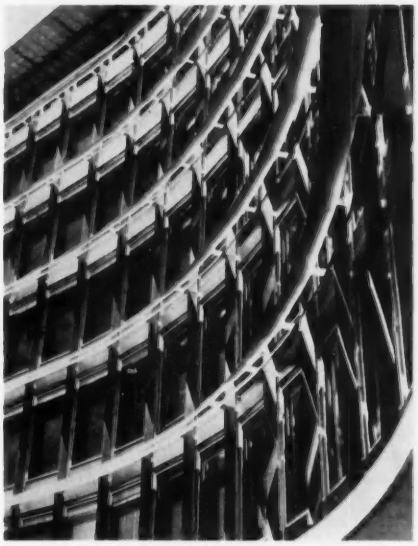
The spandrels were specially fabricated for the building of an aluminum-silicium alloy, which becomes gray through oxidation. The structure is of reinforced concrete in the basement and ground floor, welded steel in the upper floors.



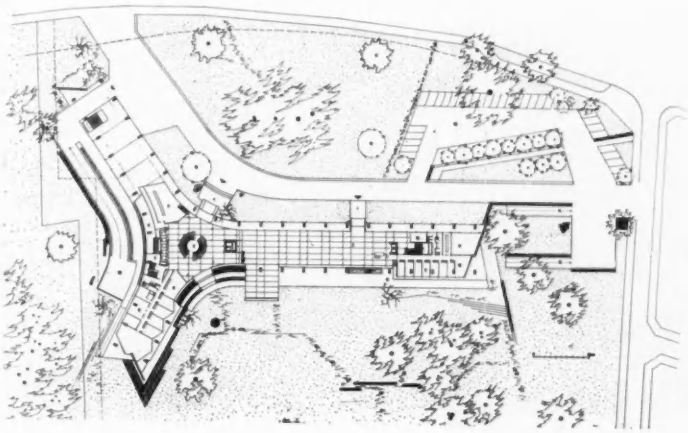
". . . the canopies, uniquely an aluminum accomplishment . . ."



". . . it respects its site, in which it is at home . . ."

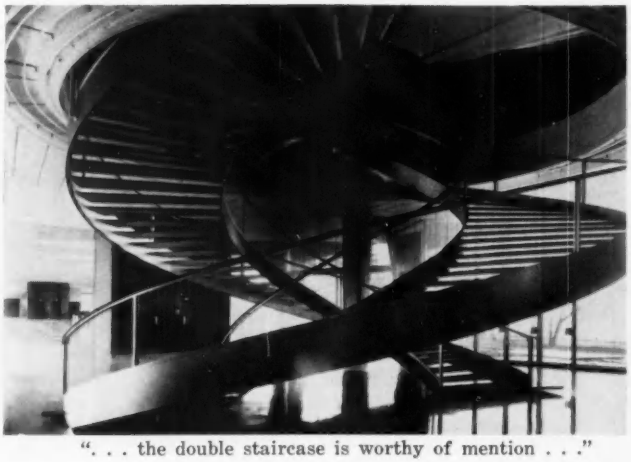


". . . delicately designed, restrained baffles . . ."





". . . sensitive handling of concrete supports . . ."



". . . the double staircase is worthy of mention . . ."



". . . enhanced by the deeply under-cut penthouse . . ."

Recent Work of van den Broek and Bakema

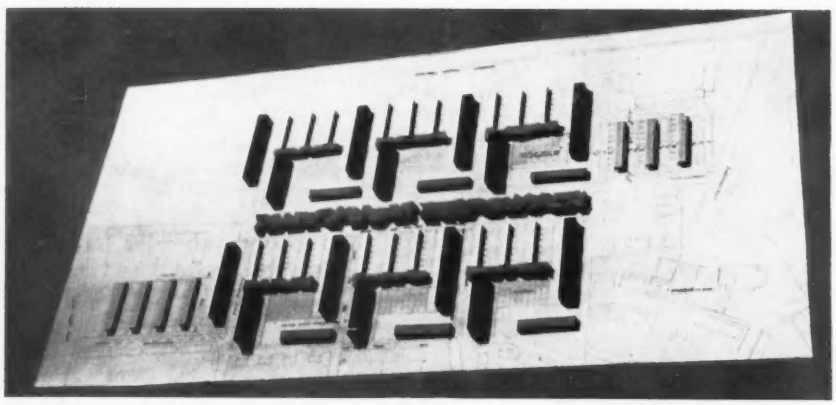
The firm of van den Broek and Bakema is one of The Netherlands' busiest and most successful architectural offices, with many large scale projects to its credit in recent years—including the Lijnbaan, the shopping street that forms the heart of reconstructed Rotterdam. At the same time, the work of this office might serve as a textbook demonstration of a consistent and highly intellectual approach to all of their problems of design.

In all of their work, the architects seek to establish a systematic pattern of organization, within which they can retain a considerable degree of freedom in arranging the individual elements of the design; and it is these freely-disposed individual elements which determine the expressive and ornamental aspect of their architecture. In this way van den Broek and Bakema are attempting to reconcile the type of abstract order found in the *De Stijl* movement with the concept that a modern building should be able to satisfy its functional requirements with efficiency and formal integrity.

Thus we find a firm of architects rigorously and logically trying to put into practice the doctrines that the apologists for modern architecture have traditionally preached.

—*Jonathan Barnett*



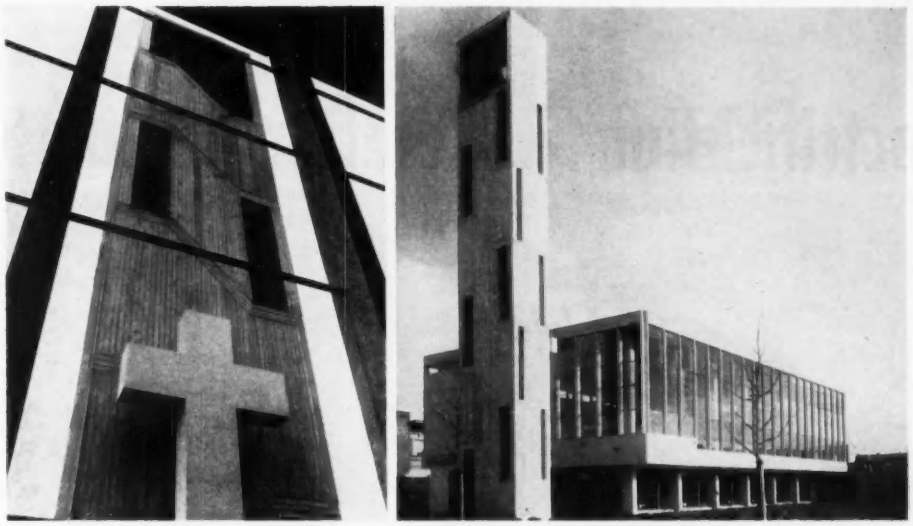


The layout of this housing project at Hengelo in northern Holland is as abstract as any *De Stijl* painting, but the elevations of the individual buildings are the direct expression of the requirements of the plan

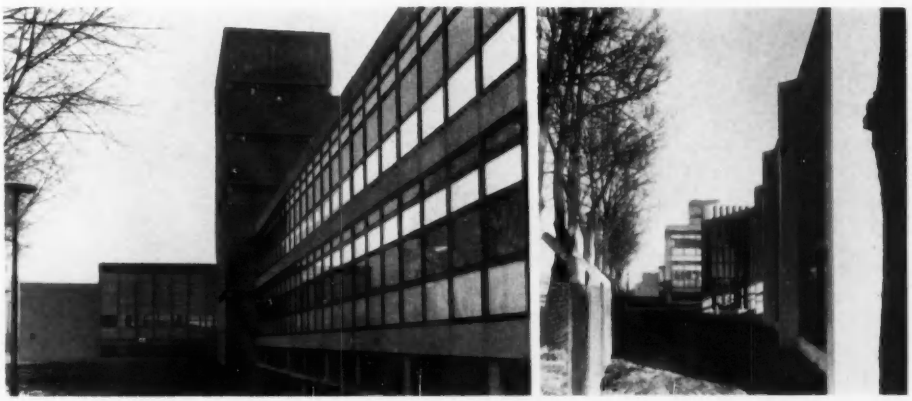




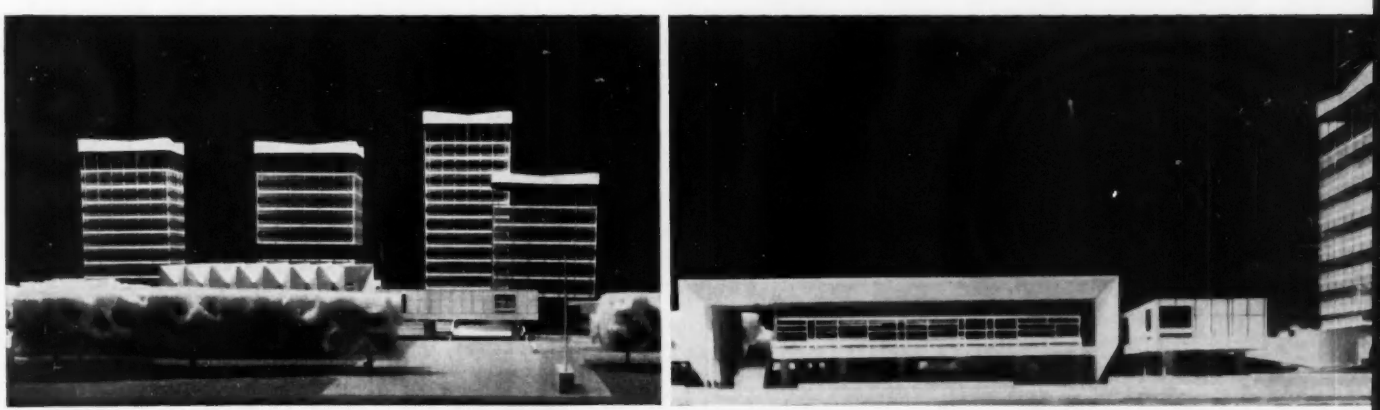
In this group of stores at Rotterdam, a display case, a stairway, and a balcony provide a vigorous interplay of masses within a simple rectilinear composition



The stairway in the bell tower becomes the dominant expressive element in this church at Schiedam



Careful detailing gives a human scale to this large school building in Rotterdam



In this model of the Town Center for Marl, West Germany, now under construction, the same dual relationship can be seen: a rigid overall system governing the disposition of the primary masses set off against individual details arranged to provide a decorative pattern

Electrification . . . Reinforcement . . . Form



Complete Underfloor Electrification—Place E/R (Electrically Ready) Cofar units between standard Cofar sections. These large cells carry power, phone, signal circuits direct to desks and machines *anywhere* on the floor. Use any desired spacing of one-, two- or three-cell units to get complete electrification where it is needed, when it is needed.

Design Flexibility—By specifying E/R Cofar floors, you can economically design for spans up to 14′4″, loads up to 250 psf. Provide for present and future wiring requirements economically.

Reinforced Concrete System—E/R Cofar system is reinforced concrete . . . strong, permanent, fire resistant. High-strength, deep-corrugated steel units, with "T" wires welded across corrugations provide positive and temperature reinforcement. Units are also the form for wet concrete; serve as working platform. Up to 4-hour UL fire ratings.

Economical—Construction is fast. No wood forms. No bottom rebars. Work schedules are maintained. Long spans mean fewer beams; save on structural framing and beam fireproofing. Optional preset inserts on E/R units speed installation of service outlets—no concrete drilling. Best insurance rates available.

You get fast, dependable delivery of Cofar and E/R Cofar and helpful field service. Over 100 Granco distributors throughout the U. S.

. . . Get all three with E⚡R COFAR®



E⚡R COFAR®

FROM THE GRANCO® FAMILY

Corruform®
Tufcor®
Roof Deck
Utility Deck
Vin-Cor
Structur-Acoustic
Stay-In-Place Bridge Forms
Guard Rail
Pavement Joints

Galvanized Steel

MAIL FOR E/R COFAR MANUAL

GRANCO STEEL PRODUCTS CO.
6506 N. Broadway, St. Louis 15, Missouri

A Subsidiary of GRANITE CITY STEEL COMPANY

Just sign coupon . . . clip to your company letterhead . . . mail today. Attention Department R-605.

NAME _____

OUR CATALOGS ARE FILED IN SWEET'S

NEW TOLEDO *Rackless*
HI-SPEED CONVEYOR DISHWASHERS



Toledo Add-A-Tank units combine to meet a wide range of dishwashing needs. Model R2T-12R (illustrated) gives you a 24" loading section (A), 24½" recirculating prewash (D), 43½" final rinse (H) and 52½" unloading section (K).

These new Toledos with exclusive Add-A-Tank design enable you to specify a Rackless Continuous Conveyor Dishwasher built to fit your client's needs exactly. The selected Add-A-Tank units go together to give you the length, capacity and specific features needed for top efficiency and lowest cost operation . . . and provide for future expansion. Capacities of combinations from 4,000 to 10,000 dishes per hour.

Add-A-Tank design gives you new freedom in kitchen planning . . . new flexibility and ease in installation for high capacity requirements. Many other Toledo features also contribute to superior performance, reliability and cost savings in operation. Its 23½" conveyor handles largest trays. Electric Water Level Control keeps tanks properly filled. Electric Final Rinse Control reduces rinse water and rinse agent consumption.

A Toledo Field Manager near you offers specialized help in dishwasher recommendations. If you would like to have catalog data or other materials, please write.

See our catalog 26b/To in Sweet's Architectural File for helpful information on dishwashers, disposers and other TOLEDO kitchen machines of advanced design.

TOLEDO® *Kitchen Machines*

DIVISION OF **TOLEDO SCALE CORPORATION** • 245 HOLLENBECK ST., ROCHESTER, N. Y.

Today, more than ever, it pays to go **TOLEDO** all the way

SERVICE
Factory-Trained
248 Cities



Disposers . . . Heavy-duty for fast, trouble-free operation. Full choice of sizes from ½ HP up to 3 HP available in a wide selection of cone sizes



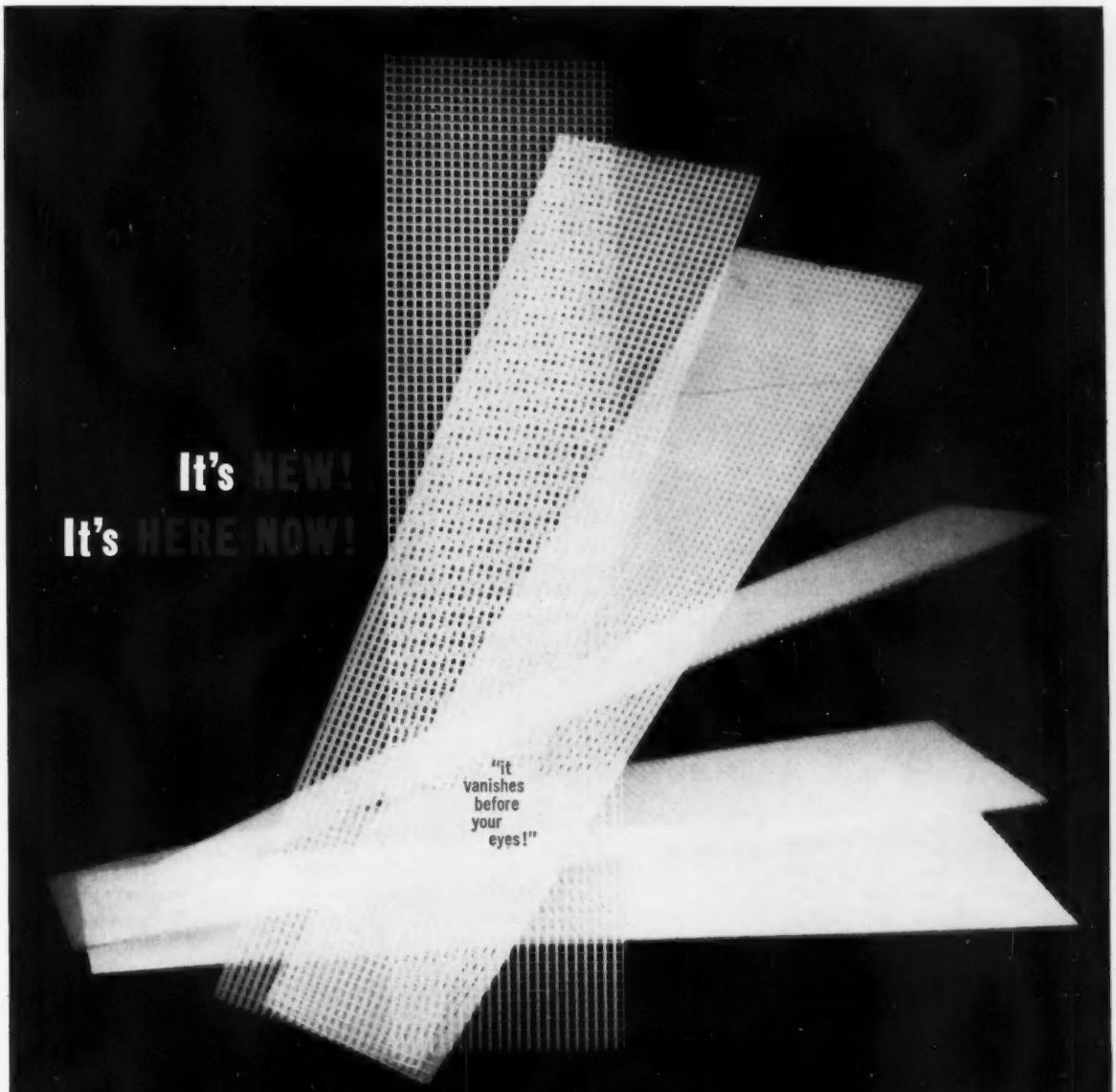
Peelers . . . Offer fast, double-action peeling with abrasive on both disc and cylinder. Low waste. Portable and cabinet type.



Dishwashers . . . Fast, thorough, dependable. Available in door, counter, conveyor and rackless types. Advanced design, easy cleaning.

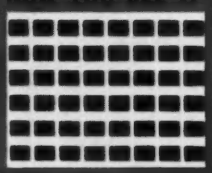


Hi-Speed Mixers . . . Feature positive gear drive; clean, efficient operation. Model TM-20 (20 qt.) shown. Also 30 qt. and 60 qt. sizes.

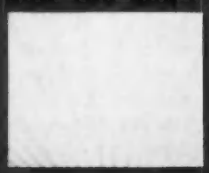


GUTH MYSTIC GRATELITE*

NOW YOU SEE IT



NOW YOU DON'T



Guth

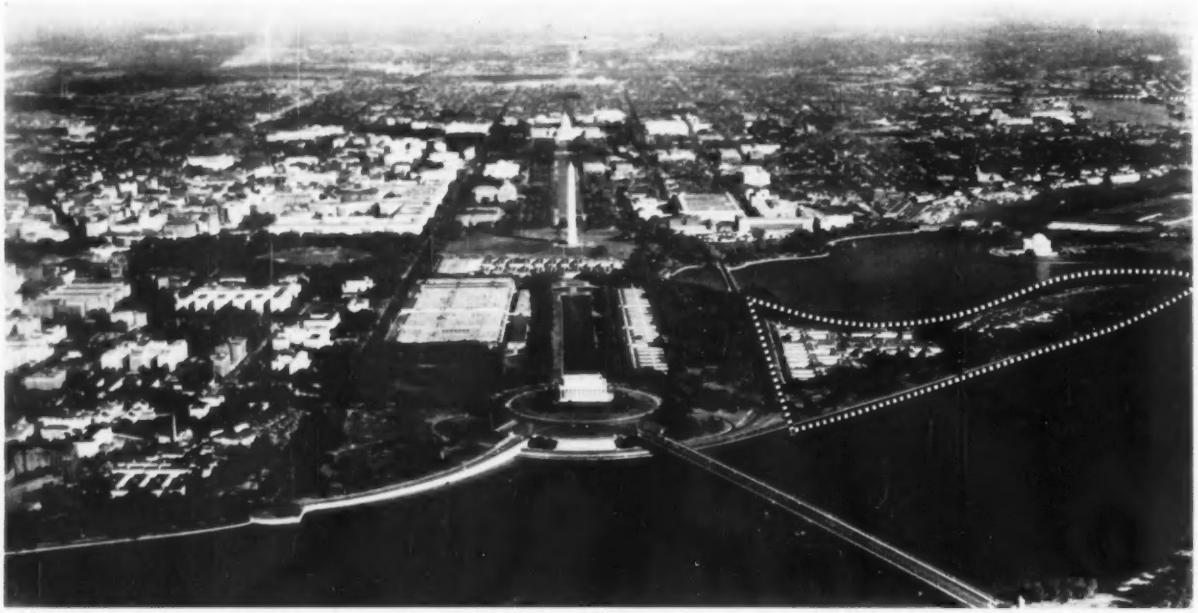
LIGHTING since 1902

The sharp, clean pattern of lines and cubes actually fades away as you change your "point-of-view." You see only the soft, luminous glow of high intensity, low brightness lighting. You'll probably think the open cubes have melted into a solid panel! That's the magic of Mystic GrateLite Louver Diffuser!

For use as complete ceilings or in Guth fixtures. (I. B. E. W. made and wired) write for the MYSTIC GRATELITE BROCHURE NOW!!

*U. S. Pat. No. 2,927,200 & No. 2,927,994

THE EDWIN F. GUTH CO. • 2615 WASHINGTON BLVD. • BOX 7079 • ST. LOUIS 77, MISSOURI



FDR Memorial Competition Has Hands-Off-the-Artist Policy

The competition for a design for the Franklin Delano Roosevelt Memorial is undoubtedly Washington's most important architectural competition since the Jefferson Memorial was built, in terms both of its eventual place in the list of sights to be seen and of its site. It is also a competition deliberately designed to give competitors maximum freedom as well as maximum challenge.

The Roosevelt Memorial Commission, which is headed by Francis Biddle, began by appointing a distinguished advisory committee, most of whose members had already had considerable experience on competition committees and juries: architect Pietro Belluschi as chairman, architect Samuel Glaser, Philadelphia museum director R. Sturgis Ingersoll, critic Lewis Mumford, landscape architect Hideo Sasaki, and architect Jay S. Unger.

One of the responsibilities of the advisory committee was to recommend a site for the memorial—three were available. They recommended the Tidal Basin site, near the Jefferson Memorial. Congress has voted to accept this recommendation as "fulfilling the postwar goal and dream of the late President that the temporary buildings erected on the Mall and adjacent parklands . . . would be removed as soon as possible after the conclusion of World War II."

The committee's central recommendation, however, was more nearly a non-recommendation: the committee declined to suggest the form which the memorial might take. In its report to the commission, the committee said:

"In our discussions it became evident that the most important thing in creating a suitable memorial, besides the selection of the right person or persons to execute the work, is the discovery of a theme that will bring forth in such artist the fullest kind of response, so that he will create something that will far exceed any specifications that the Committee might—if it were unwise—try to lay down. In drawing up a program for the Roosevelt Memorial therefore, it will be well to cast aside, at the beginning, any previous building or work of art as a model to be directly imitated. We may admire the purity of the Washington Monument and see in this isolated, lofty column a true image of the Father of our Country, but we know that such a symbol cannot be used a second time. The same applies to monuments as effective as the Farragut Monument in New York or the Lincoln Memorial. We must look rather to the character and work of Franklin Roosevelt to give us the theme of a memorial that will do him the honor he deserves and transmit his living image to future generations. . . .

"It would stultify the mind of the designer, perhaps paralyze him, if the Committee were to indicate beforehand whether the appropriate form would be a building, a garden, a fountain, a pool, a whole landscape, or all of these wrought together in some fresh, surprising, and appropriate form. Our one thought would be that Roosevelt, the essential Roosevelt, must be the focus of an appropriate memorial; it is surely not enough to inscribe his name over the entrance of a building conceived for some quite different use and purpose."

The committee did go so far as to give its thoughts on the characteristics of "the essential Roosevelt" which might effect the design of his memorial: first, his "warm feeling for people," suggesting that the memorial "be accessible, and the visitor not put at a great distance from the man by reason of his eminence"; second, the good neighbor policy, which "tries to establish a sense of common needs and common aims"; and, third, his "vital sense of the unity of all mankind—to create a fitting memorial for Roosevelt, not merely must his native soil and his American heritage be brought into the picture—the rest of mankind must be vividly present, in some

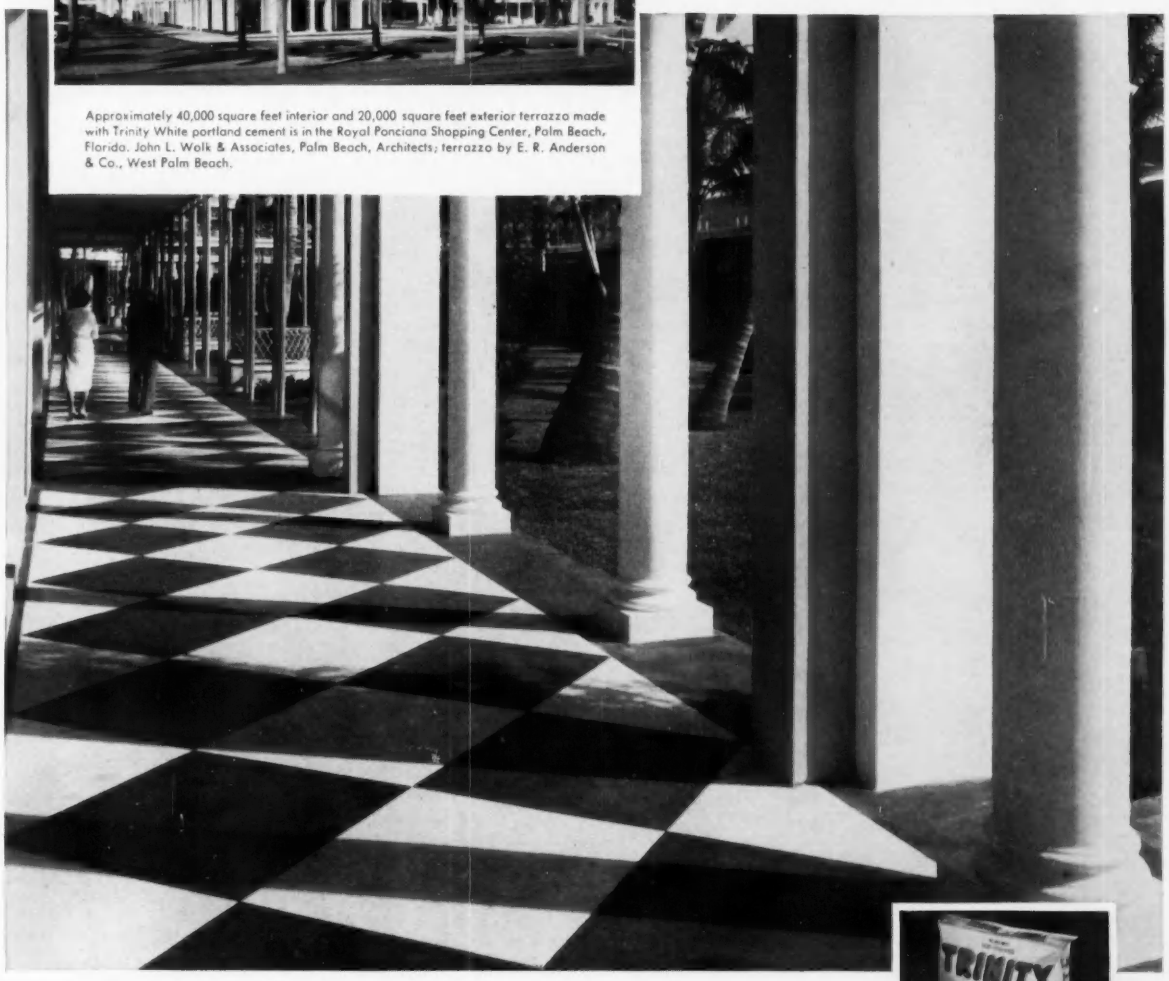
continued on page 47

Terrazzo

...all that a floor can ever be



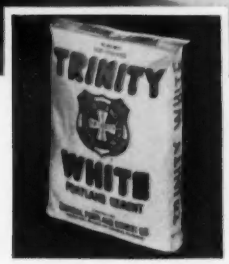
Approximately 40,000 square feet interior and 20,000 square feet exterior terrazzo made with Trinity White portland cement is in the Royal Ponciana Shopping Center, Palm Beach, Florida. John L. Wolk & Associates, Palm Beach, Architects; terrazzo by E. R. Anderson & Co., West Palm Beach.



COSTS HAVE BEEN KEPT on terrazzo and 6 competitive floors. First cost plus seven years of maintenance for each were compared. Terrazzo was the least expensive of any type—less costly by one-third than 5 of the 6 types. And it had far more remaining value after seven years than any other type.

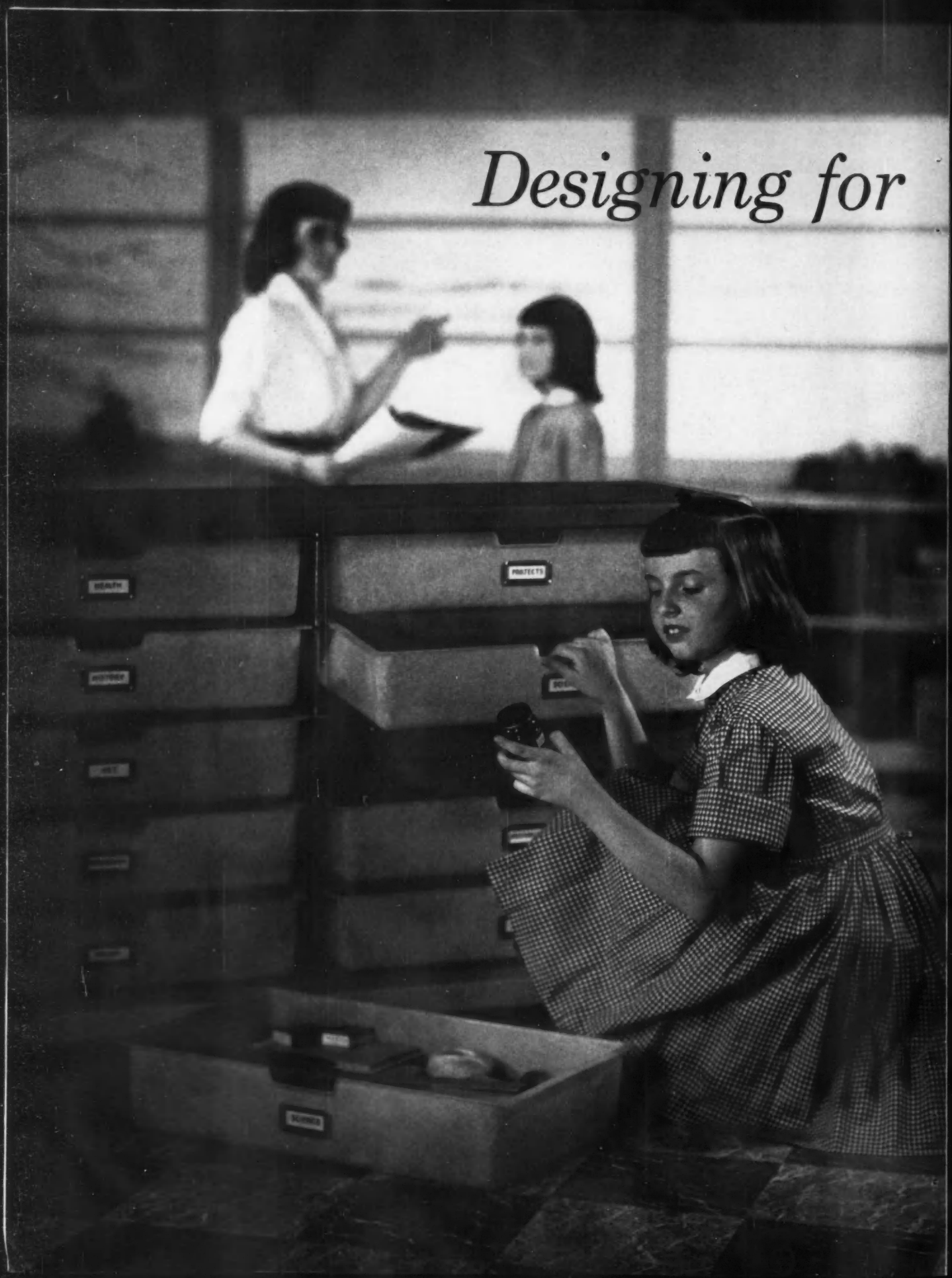


Ask for Trinity White's full-color reproductions showing 24 chip and matrix color combinations plus standard terrazzo specifications. Address: Trinity White, 111 West Monroe St., Chicago 3.



A product of GENERAL PORTLAND CEMENT CO.
CHICAGO · CHATTANOOGA · DALLAS · FORT WORTH · FREDONIA, KANSAS
HOUSTON · JACKSON, MICHIGAN · TAMPA · MIAMI · LOS ANGELES

Trinity White
PORTLAND CEMENT


Designing for

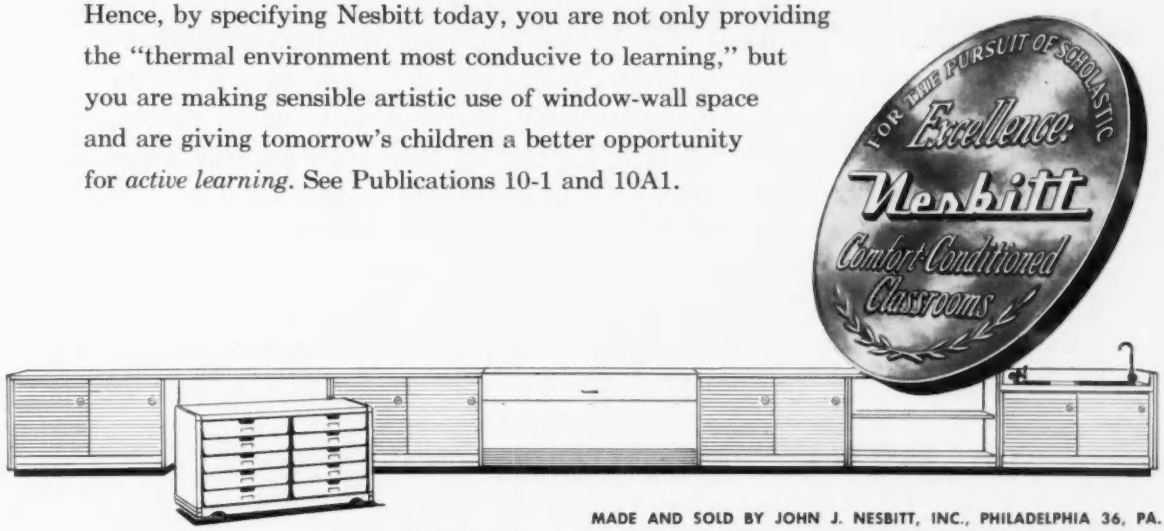
active learning

Your understanding of the importance of controlled heating, ventilating and natural air cooling—or year-round air conditioning—in every school or college classroom will suggest the use of a dependable unit system, which meets the varying usages, occupancies, activities and exposures with tailored comfort and economy—and you most certainly will think of Nesbitt's leadership in this field for more than 40 years.

You may know, as well, of the distinct contribution of Wind-o-line radiation when integrated with Nesbitt Syncretizers: how it provides a separate protection against cold window downdraft; and how its copper tubing can serve to pipe a whole series of classroom Syncretizers in a forced hot water system with large savings in building and equipment costs.

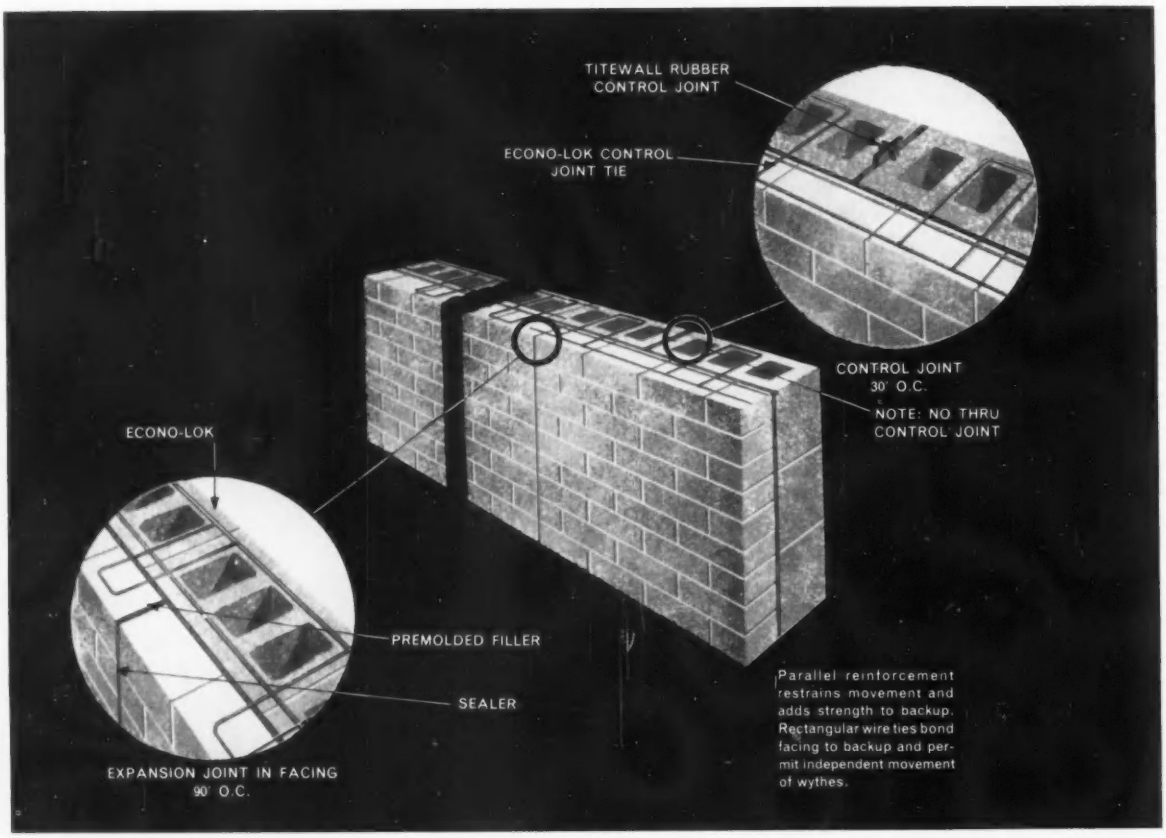
Now, in the new Series 600 line, you are given a complete fresh gamut of line and color to satisfy your urge for distinctive classroom design. But more than that: in the new 600 line of integrated storage cabinets—developed after extensive studies of educational requirements—Nesbitt provides the more flexible fixed and mobile units, and a cabinet sink-bubbler, as demanded by creative teaching.

Hence, by specifying Nesbitt today, you are not only providing the "thermal environment most conducive to learning," but you are making sensible artistic use of window-wall space and are giving tomorrow's children a better opportunity for *active learning*. See Publications 10-1 and 10A1.



MADE AND SOLD BY JOHN J. NESBITT, INC., PHILADELPHIA 36, PA.
Sold also by American Standard Industrial Division, and American Standard Products (Canada) Ltd.

NO Brick Headers!
NO Thru-Wall Expansion Joints
With ECONO-LOK®*



■ Exposed sides and interior sides of faced masonry walls are subject to differing stresses under varying atmospheric conditions.

These stresses continue throughout the life of the building and — if not relieved — eventually cause fatigue failure.

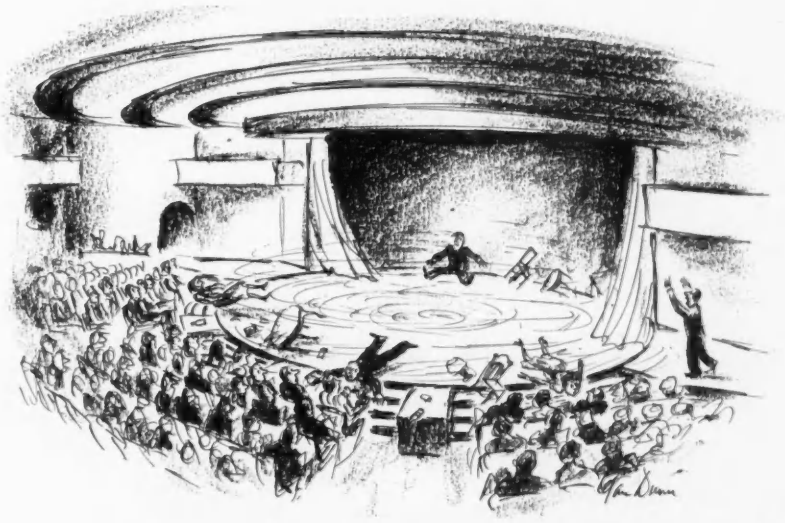
These normal stresses can be virtually eliminated through the use of ECONO-LOK* reinforcing ties and the proper spacing of control or expansion joints. WRITE FOR NEW TECHNICAL CATALOG.

FLUSH WELDED · PROVEN TO BE STRONGER

AA WIRE PRODUCTS COMPANY

720 EAST 61st STREET • CHICAGO 37, ILLINOIS

1960 SWEET'S ARCH. 4h/Aa and/or Ind. Const. 4c/Aa • *PAT. PEND. ©1960 AA WIRE PRODUCTS COMPANY ®REG. U.S. PAT. OFF.



"Hey, slow it down!" —*Drawn for the* RECORD *by Alan Dunn*

Louis Kahn Honored

The National Institute of Arts and Letters has announced that this year's Brunner Award has been given to architect Louis I. Kahn of Philadelphia. The award, bestowed yearly on "an architect who has contributed to architecture as an art," carries with it a citation and a $1000 prize. Since the Institute initiated the award in 1955 in honor of architect and Institute member Arnold W. Brunner, it has been conferred on Gordon Bunshaft, John Yeon, John Carl Warnecke, Paul Rudolph and Edward Larrabee Barnes; Minoru Yamasaki received an honorable mention in 1955. The award will be presented to Mr. Kahn on May 25 at the Joint Annual Ceremonial of the National Institute and the American Academy of Arts and Letters.

A.I.A. Journalism Awards

The American Institute of Architects has announced the winners in its seventh annual Journalism Awards Competition, held to give recognition to articles, appearing in newspapers and magazines of general circulation, which "further public understanding of architecture and the architect." First prizes, of $500 each, went to George McCue of the *St. Louis Post-Dispatch*, in the newspaper category, for a critical article on architecture (this was Mr. McCue's second consecutive award); and to Grady Clay, in the magazine category, for his article "Metropolis Regained" in *Horizon* magazine. Second prizes, of $250 each, went to Brooks Martin, in the newspaper category, for an article on the lift-slab system for San Antonio's *La Prensa;* and to James Britton, in the magazine category, for his article "Downtown Tomorrow," published in *San Diego and Point* magazine. Honorable mentions went to *Time* magazine, *The Nation* magazine, and Robert J. Lewis, real estate editor of *The Washington Star*.

The Cultural Community

Two architects are included in the list of newly elected members of the National Institute of Arts and Letters: Gordon Bunshaft and Wallace K. Harrison. Other representatives of the arts admitted as members of the Institute include sculptor Alexander Calder, painters Marcel Duchamp, Willem De Kooning, Rico Lebrun and Francis Speight. The Institute has also announced that Pietro Belluschi has been elected a vice president, along with Peggy Bacon, graphic artist.

Election Returns

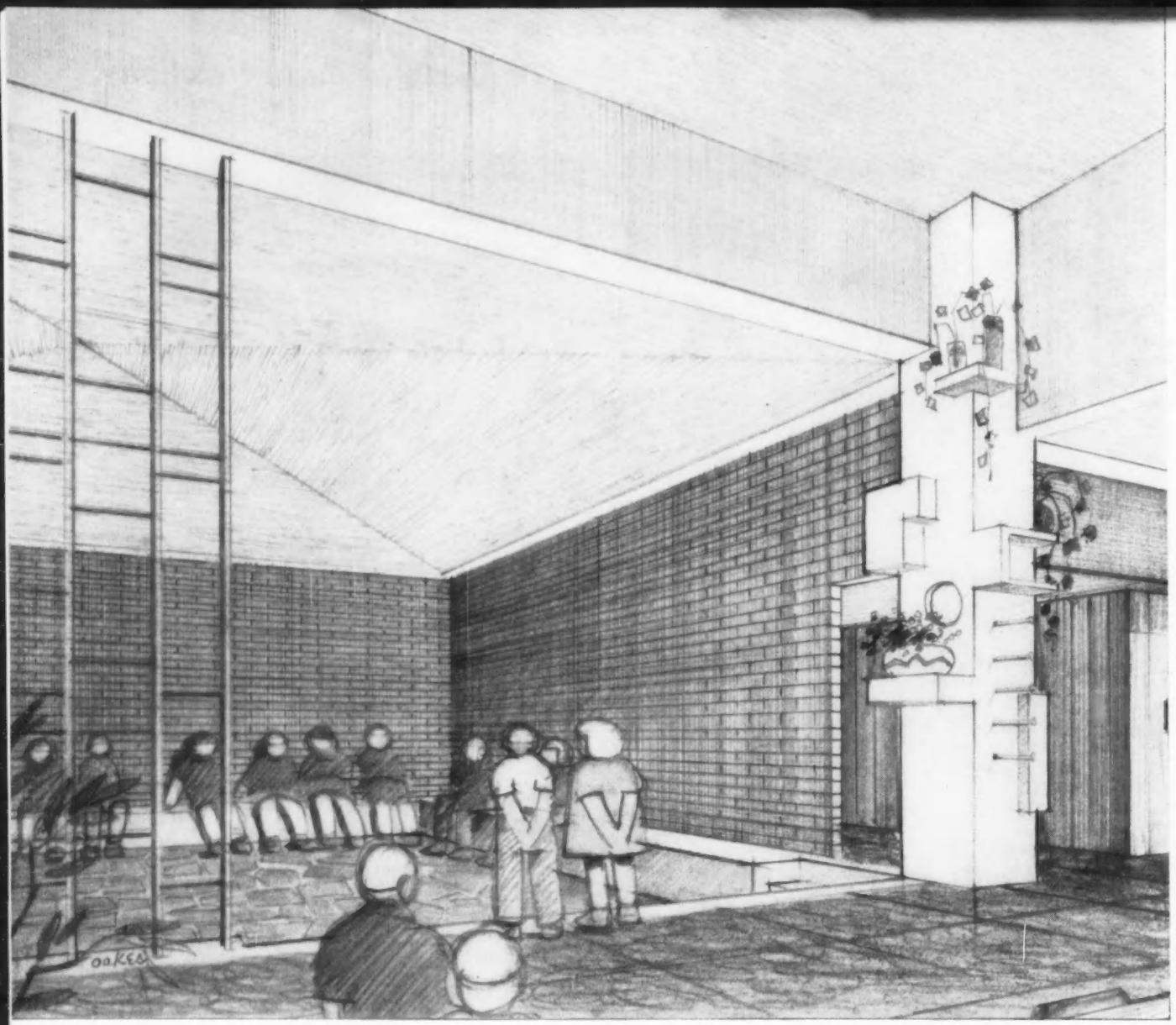
The Architectural League of New York has elected Robert W. Cutler, a partner in Skidmore, Owings & Merrill, to serve as its president for the coming year. Other officers elected by the League include: Seymour Fogel, vice president, painting; Gwen Lux, vice president, sculpture; Richard C. Guthridge, vice president, landscape architecture; Jens Risom, vice president, design and craftsmanship; Ira Hooper, vice president, engineering; Giorgio Cavaglieri, vice president, architects; Cope B. Walbridge, secretary; and Alfred Geiffert III, treasurer. Morris Ketchum Jr., the retiring president, and Nembhard N. Culin and Michael Radoslovich were named to two-year terms on the executive board.

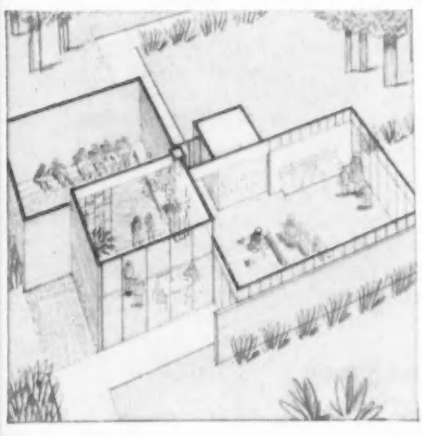
Wayne S. Hertzka, of the San Francisco firm Hertzka & Knowles, has been elected by the California Council of the American Institute of Architects to serve as its president during 1960. The Council also elected Frank L. Hope of San Diego as vice president, Edward D. Davies of Pasadena as secretary, Joseph J. Jozens of Sacramento as treasurer, and Maynard Lyndon, F.A.I.A., of Los Angeles as member-at-large.

With the Schools

The recently issued roster of members of the Association of Collegiate Schools of Architecture shows no major changes in the membership—

continued on page 28





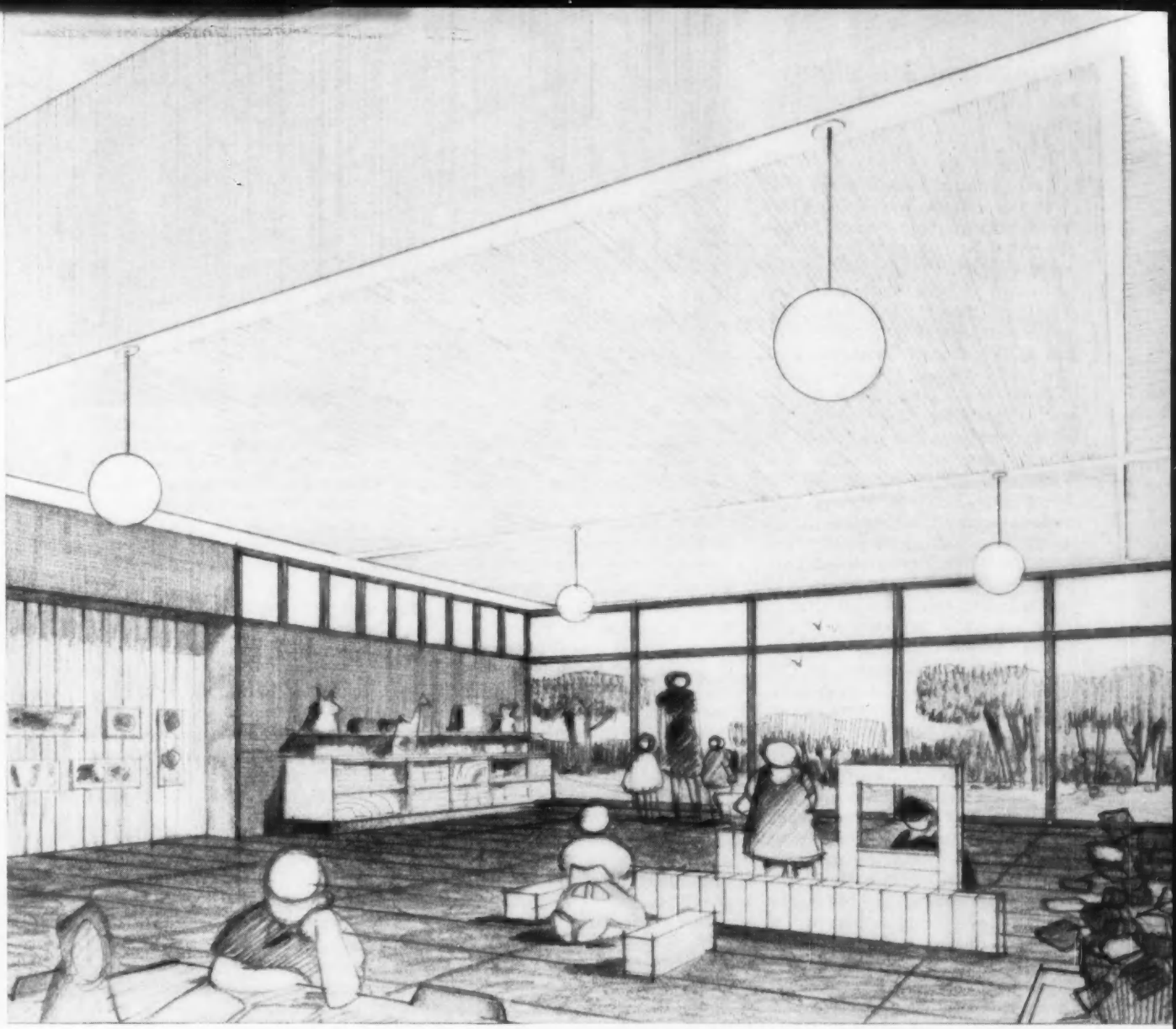
How a strongly directional acoustical ceiling adds variety to this nursery school

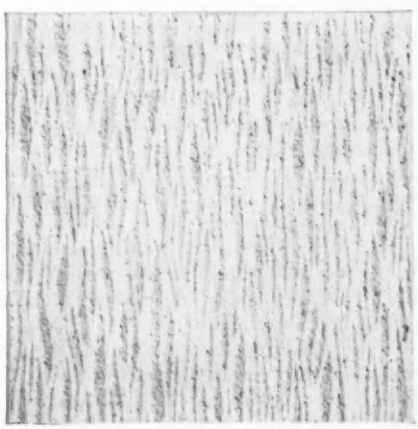
Plan by George M. Ewing Co.
Architects & Engineers
Philadelphia, Pennsylvania

"OUR purpose was to design a nursery school that would be spatially interesting. So instead of having one or two larger spaces and subdividing them for various functions, we decided to provide four or five different areas within the buildings.

"The distinctiveness of each area would be strongly accentuated by changes in wall treatment, flooring, floor level, and ceiling height.

"Armstrong Embossed Travertone, chosen because of its unique pattern and very definite *direction*, gives each space in the nursery an added interest of its own."





Armstrong Embossed Travertone – a mineral-wool acoustical material with an exclusive directional surface design of deep, wavering striations. Rated Class A (Incombustible). Carries Underwriters' Label. Has noise-reduction coefficient range of .70-.80. Offers insulation value—C Factor is .53 at 70° F. Available in 12″ x 12″ x ¾″ size. Can be cemented to existing surface or mechanically suspended. Listed in Section $\frac{11a}{Ar}$ of Sweet's Architectural File.

For further information and complete specifications, call your Armstrong Acoustical Contractor or your nearest Armstrong District Office. Or write to Armstrong Cork Company, 4205 Rock Street, Lancaster, Pa.

Armstrong ACOUSTICAL CEILINGS

1860-1960 Beginning our second century of progress



This year's Birch Burdett Long prize for architectural rendering was awarded to George Cooper Rudolph for this rendering of Skidmore, Owings & Merrill's design of the addition to the Albright Museum in Buffalo. From the record 63 submissions in the annual Architectural Rendering Show sponsored by the Architectural League of New York, three were selected as "outstanding"; these were the submissions of Mr. Rudolph, Robert Schwartz and Harry N. Wijk

no schools have been dropped since 1959, nor have any been added. There have, however, been changes within the roster. Four of the colleges having schools of architecture have become universities: Iowa State University (formerly Iowa State College), Kansas State University (formerly Kansas State College), Oklahoma State University (formerly Oklahoma State College), and Washington State University (formerly the State College of Washington); and one college has changed its name altogether: Auburn University (formerly Alabama Polytechnic Institute). There were also a number of changes in the designations of departments and schools: at the University of California, the curriculum is now part of the College of Environmental Design (William W. Wurster remains Dean); at the University of Houston, the School has become the College of Architecture; and at Montana State College, the Department has become the School of Architecture (H. C. Cheever is now its Director). And there were a number of new names among the heads and deans: Dr. Paul Goettelmann, Acting Head, Department of Architecture, Catholic University of America; De Von M. Carlson, Acting Head, Department of Architecture and Architectural Engineering, University of Colorado; Charles R. Colbert, Dean, School of Architecture, Columbia University; George E. Danforth, Director, Department of Architecture, Illinois Institute of Technology; John W. Lawrence, Acting Dean, School of Architecture, Tulane University; and Raymond P. Chaty, Acting Chairman, Department of Architecture, Western Reserve University.

Figures released by the A.C.S.A. show continuing expansion of enrollment in both the member schools and associate members. In 1958-59, the total enrollment for both of these groups was 14,014; this year, the total is 15,479. Last year, the schools expected to confer a total of 1573 B. Arch. degrees, 182 M. Arch. degrees; this year the respective figures are 1778 and 256.

Contractors' Convention

Delegates to the 41st annual convention of the Associated General Contractors of America, held in San Francisco in March, installed John A. Volpe, Malden, Mass., as their 1960 president, considered controversial issues concerned with bid-shopping and bid-peddling and the highway construction program, and heard John Noble Richards, then president of the American Institute of Architects, discuss mutual problems.

Nearly 2500 attended the San Francisco conclave, which was held but a few weeks before the annual A.I.A. convention in the same location—the Masonic Memorial Temple atop Nob Hill.

In his speech to the contractors, Richards noted that the A.I.A. board of directors was about to recommend to the Institute's membership specific measures by which the scope of the architectural services and the competence of architects can be increased. Some of the basic A.I.A. documents may have to be revised to accomplish the former, he said.

The new measure for professional scope and competence has been recommended by a committee on the profession headed by James M. Hunter, F.A.I.A., Boulder, Colorado.

Richards spoke also of the new organizational structure proposed for the Institute and headquarters staff reorganization already effected at the Octagon.

On changing needs for architectural services today, the A.I.A. president told A.G.C. members, "We have to face the fact that our clients want a far more comprehensive service than many of us are prepared to render. If this were not so, the package dealers would not be in business.

"We have to face the fact that architecture is no longer a matter of individual buildings, but of whole building complexes, of neighborhoods, communities, technical and cultural centers, and the renewal and rehabilitation of entire cities, or certainly large parts thereof."

After prolonged debate both in private and open sessions on the bid handling question, the A.G.C. membership represented at San Francisco voted approval of a modified plan eliminating completely an earlier proposal to seek the aid of the national A.I.A. in its efforts to remove unethical practices. As finally passed, the resolution stated definitely the contractors would not recommend any plan at all to the architects nationally. The official action now recommends that "any effective plan be adopted by local chapters of the A.G.C. only in those cases in which the local mechanical specialty subcontractor groups have demonstrated and agreed to continue their wholehearted support for the single contract system of construction."

As first suggested and tabled by the association's governing board, the plan would have required principal contractors to list their choices for mechanical specialty subs for each major category of work. The subs would have submitted their intentions to bid to the prime contractor in writing at least a day before bid openings.

The delegates installed M. Clare Miller, McPherson, Kansas, as 1960 vice president, and the board renamed Arthur S. Horner, Denver, Colo., to serve as secretary-treasurer.

The organization's 1961 convention will be held in Boston.

—*Ernest Mickel*



THE STORY BEHIND THIS SEAL

This is more than just the Seal of Approval of the Steel Joist Institute. It is the symbol of a 32-year-old dedication to the welfare and progress of an important segment of the design and construction industries.

What is the Steel Joist Institute?

It is a voluntary association, organized in 1928, of open web steel joist manufacturers. Membership is available to any producer of open web steel joists who elects to manufacture joists in accordance with the standards and practices as adopted by the Institute.

What is its purpose?

The Steel Joist Institute is a nonprofit organization made up of manufacturers actively engaged in the fabrication and distribution of open web steel joists. It was organized to place the industry on a sound engineering basis. Its objectives are to establish methods of design and construction for open web steel joists, to provide test and research data for public dissemination, to assist in the development of appropriate building code regulations, and to publish information relative to the proper use of steel joists in the interest of safety and the public welfare.

What are its accomplishments?

The Institute has made substantial practical contributions to the building construction industry. It has developed and published a comprehensive manual of standard specifications, load tables, and technical bulletins to assist the architect, engineer, and contractor; conducted research and testing of open web steel joists, bridging and cantilever members; initiated a thorough, effective quality verification program for "S" Series joists and a recommended Code of Standard Practice applicable to steel joists.

Inquiries concerning the Steel Joist Institute should be sent to the Managing Director, Steel Joist Institute.

STEEL JOIST INSTITUTE

Dupont Circle Building • Washington 6, D. C.

KOHLER



VALVET, shown in a Centra lavatory fitting, is in the full closed position while the unit at right is open. Note the non-rising stem.

VALVET UNIT

The Kohler Valvet interchangeable unit is engineered to eliminate the grinding action of conventional faucets. The valve is opened and closed with a piston-like movement, pressing seat against washer—with no wear on washer or seat.

POSITIVE FLOW

Water flow from spout remains constant at the volume you prefer when you turn the handle. A gentle turn shuts valve completely—a dripless seal assured.

NON-RISING STEM

Eliminates all unsightly packing residue; "O" ring needs no lubrication; prevents leakage ordinarily caused by packing wear.

EASY TO MAINTAIN

Unit can be replaced in seconds if necessary—slips into place as easily as putting your hand in your pocket—no special tools needed. Compact, easy to stock—ideal for multiple installations—schools, commercial building.

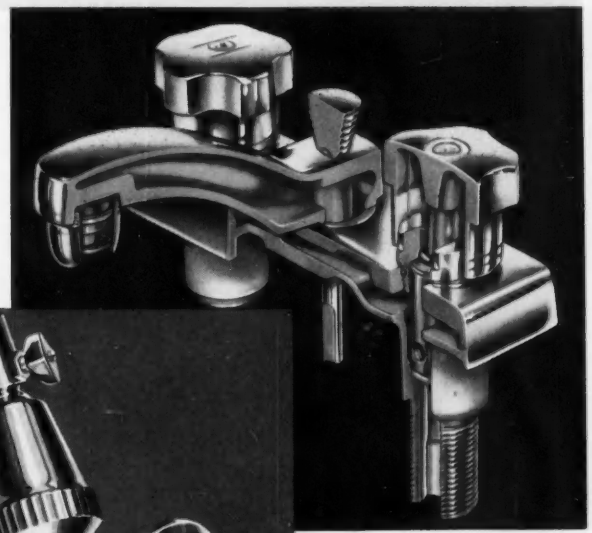
FITTINGS

All-Brass

All the metal in every Kohler fitting — including handles and escutcheons — is genuine brass, insuring maximum resistance to wear and corrosion, together with minimum maintenance. Brass also takes and holds chrome finish better than any other metal.

Star-like beauty. The Galaxy series with brushed or polished chrome finish, and the Constellation series in polished chrome, combine distinguished design with ease of operation. They fit the hand comfortably, respond to finger pressure, and complement Kohler fixtures in quality and style.

Always specify Kohler fittings for Kohler fixtures. Together they insure first quality throughout the installation, with matching beauty of style —and undivided manufacturing responsibility.





CENTRA, Constellation series lavatory fitting, cut away to show the all-brass construction, K-7400.

DALTON, Galaxy series, shower and bath fitting, K-6927.

BANCROFT, Constellation series, shelf-back lavatory fitting, K-7416.



The Kohler mark of quality—on all Kohler products —is recognized and respected the world over.

Kohler Fixtures and Fittings:

MADE FOR EACH OTHER

KOHLER CO. • ***Established 1873*** • **KOHLER, WIS.**

KOHLER OF KOHLER

ENAMELED IRON AND VITREOUS CHINA PLUMBING FIXTURES • ALL-BRASS FITTINGS
ELECTRIC PLANTS • AIR-COOLED ENGINES • PRECISION CONTROLS



HIS FIBERGLAS* DRAPERIES CONTROL LIGHT, HEAT, NOISE, GLARE!

The rich, soft, beautiful draperies in room 740 control light, heat, noise and glare. They're made from Burlington's Fiberglas Fenestration Fabrics . . . a new and supremely useful tool for the architect, the decorator, the engineer. • Translucent glass fibers make the most of natural light . . . filter out glare . . . bathe interiors in soft, comfortable light. Gone are the harsh zebra stripes of conventional shading devices. • Temperature, too, comes under control. Like the double panes of insulating windows, Burlington Fiberglas Fabrics create air space which minimizes heat transfer, summer or winter. Effectively reduces noise, as well. • And because these fabrics are glass, they're as easy and inexpensive to maintain as your windows. They require only wet-washing . . . about once every two years in air-conditioned buildings. Never need ironing. Can't shrink, stretch, or sag. Will not be weakened by sunlight or by climate. And they are inherently firesafe.



WRITE FOR FREE DATA BOOK. *Hess, Goldsmith & Co. Inc., Dept. A1, 1400 Broadway, New York 18.*

Burlington

FIBERGLAS **FENESTRATION** FABRICS

*OWENS CORNING T. M.

Burlington

Hess, Goldsmith & Co., Inc., 1400 Broadway, New York 18, N. Y. • A Division of Burlington Industries

ARCHITECTURAL RECORD *Western Section*©

WESTERN EDITOR: *Elisabeth Kendall Thompson, A.I.A.*

2877 Shasta Road, Berkeley 8, California

Parkinson's Law May Get a Setback

It's not often that the private citizen gets back a right taken over by the State. But that has just happened in California.

Ever since the end of World War II, California's State Division of Architecture has been multiplying its personnel and the amount and scope of work it performs. Among the buildings which have been its exclusive prerogative are those for the state colleges, a large enough number of buildings, but now—with the graduation from high school of the first crop of "war babies"—a much larger number. In fact, between now and 1966, California expects to spend around $275 million to provide the facilities these young people will need. Until last month it looked as if the State Division of Architecture would, as usual, design and construct all of these buildings.

But an assemblyman from Merced, Gordon Winton, changed the course of events by introducing and fighting through an amendment to the highly controversial master plan for higher education in the state. As a result of this amendment, the trustees of the state colleges will be able to engage private architects for the design of new buildings on their campuses.

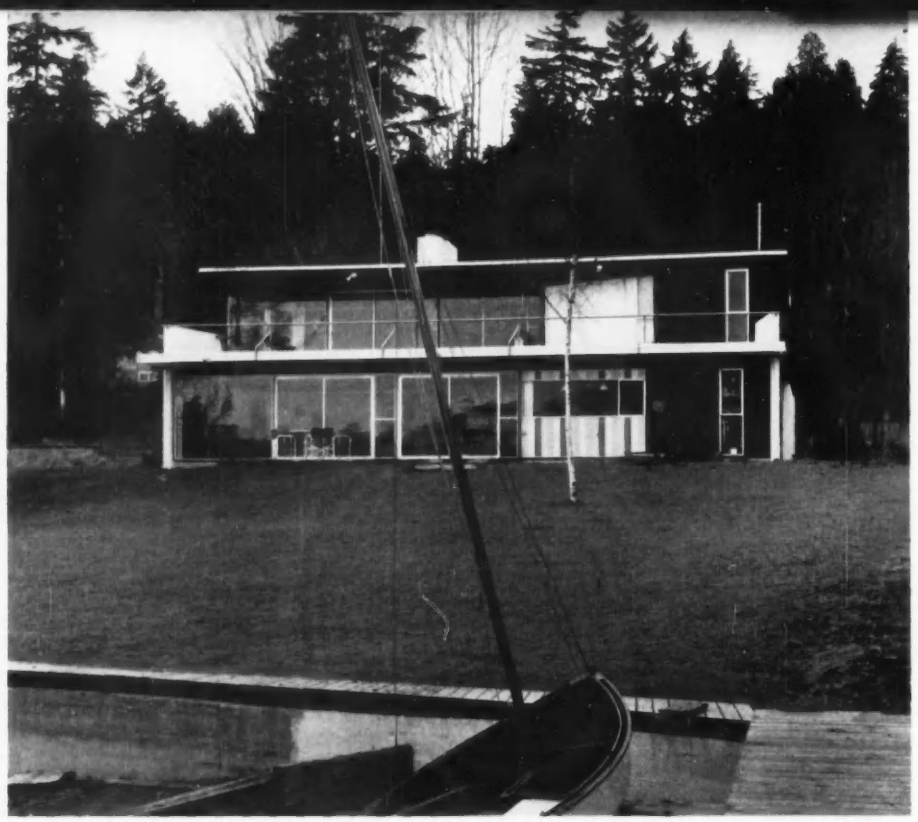
That the trend toward expanding government bureaus—predicted and formularized in Parkinson's Law—could be reversed is of utmost significance. For while the idea of a state architect to act as liaison between the State and the architect, is gaining acceptance as time goes on, there remains the uncomfortable possibility that it has implicit in it the germ of a bureaucratic operation. California got caught in just such a situation; other states have watched it for years and several have proposed—and are still proposing—that a state architect's office be established. What has happened in California should give them pause.

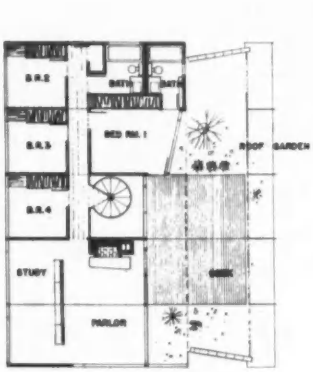
One of Assemblyman Winton's two strongest reasons for inserting his amendment was that he believed that costs of designing the state college buildings would be less if private architects did the job than if the State Division did it. This has long been the statement of the California Council, A.I.A., which has sought to document its statement with figures; but while it had the cost breakdown for private architectural practice, it has never been able to get similar cost breakdowns from the State. A by-product of the Winton amendment is the announcement by Governor Edmund G. Brown that he will "make a thorough study of the costs of designing buildings by the State and by private architects." Such a study—welcome to architects on both sides of the fence—should proceed without delay and be made public as soon as possible. It is time that this question is clarified.

Mr. Winton did not stop with his statement of belief in the greater economy of buildings designed by private architects. He said that he thought they would be better buildings—esthetically better. Anyone who has visited some of the state college campuses would agree that a step up on the esthetic scale is decidedly desirable: some of them look more like penal than educational institutions.

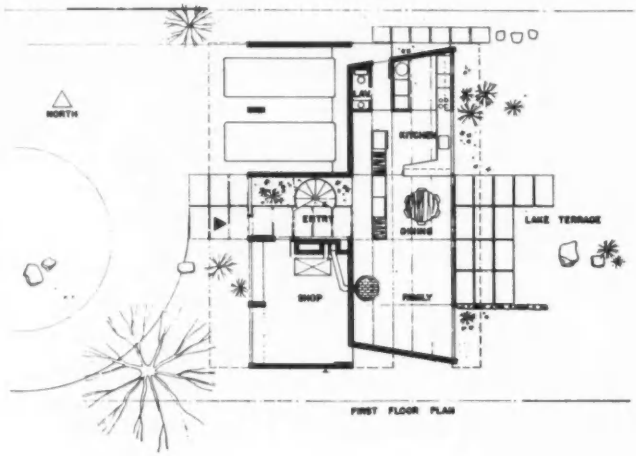
But the Winton amendment cannot reverse the trend of bureaucracy alone; and it cannot of itself make buildings that are both more economical and more esthetic than those designed by the State. It's up to the private architects as well.

E.K.T.

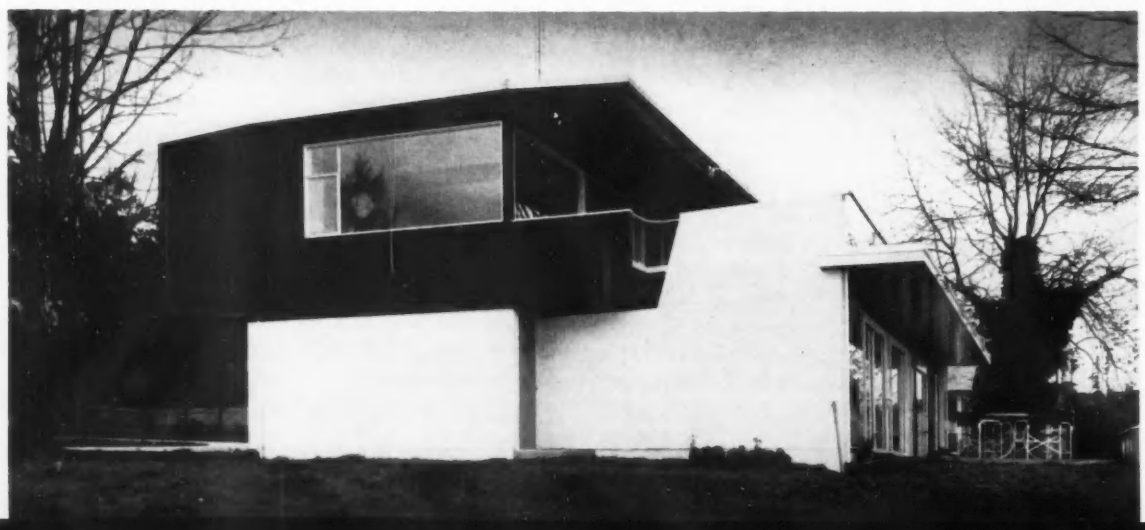




SECOND FLOOR PLAN



FIRST FLOOR PLAN

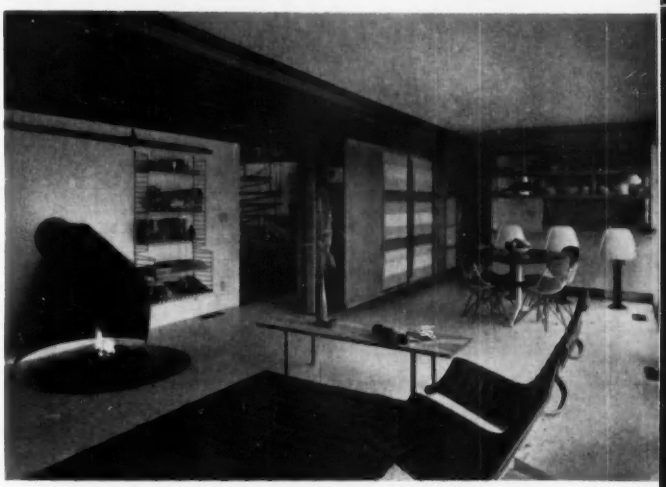


SEATTLE'S "HOME OF THE YEAR" OFFERS VARIETY IN LIVING

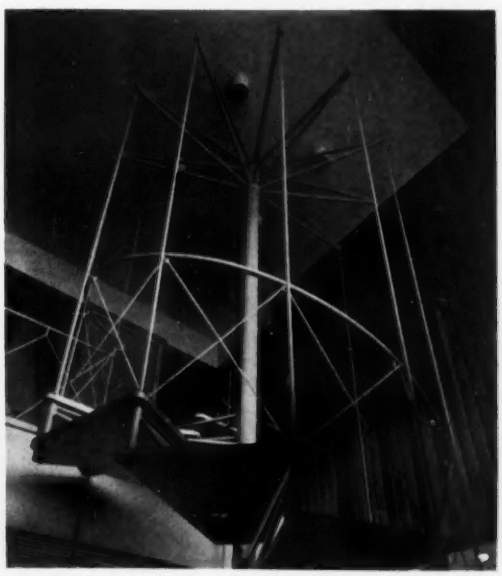
Wendell Lovett, Architect

This unusual house on the East Channel of Lake Washington was designed to answer the need for a variety of spaces which could be used for quiet as well as for active work and relaxation. The owners are a young couple with three children. "Active" areas are located on the ground floor, opening onto a lawn which leads to the water's edge; "quiet" areas —sitting room, bedrooms and wide deck overlooking the lake—are all on the upper level. An unusual spiral stairway joins the two floors; from the top of its central steel column radiate pipes which act as a suspension system to tie rods to the treads. The exterior combines, with great simplicity, pumice block on the lower level and cedar planks stained dark brown on the upper floor.















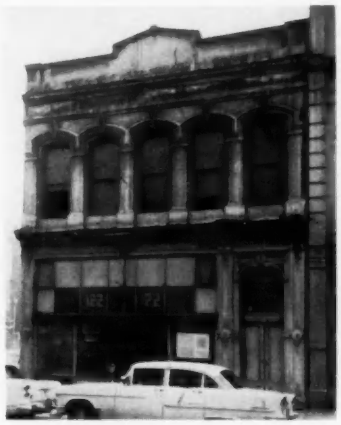
Pioneer Square may look like these sketches by Jerry Williams when it is restored. Earlier proposals by Victor Steinbrueck were first evidence of interest in preserving this historic area in downtown Seattle. Below: square as is

TODAY'S SURPRISE TREND: REVIVAL FOR OLD BUILDINGS

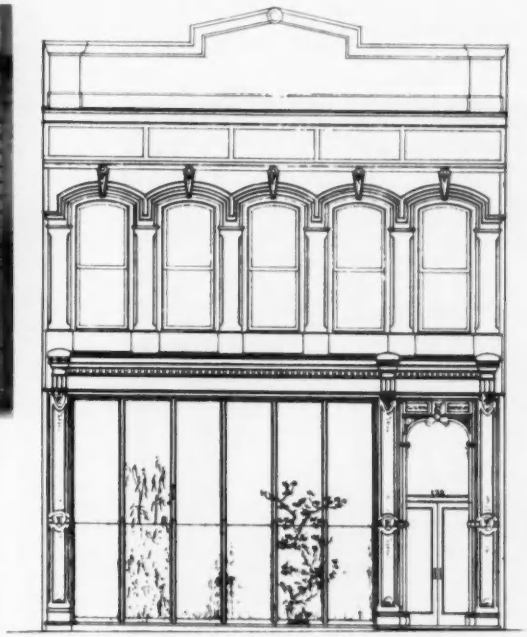
A dozen years ago, old buildings had little chance of survival if their sites were wanted. Today, the site is only part of the desirable quality of a piece of property. Old buildings too pleasant to tear down, structurally worth preserving; places of historic significance; reminders of the past: all these give a city character. Olvera Street in Los Angeles and Maiden Lane and Jackson Square in San Francisco have been prime Western examples of what revival of decaying buildings can do for a city. Now Seattle is making plans for remodeling of its historic Pioneer Square, heart of the early city. The triangular park with its fancy cast iron shelter and the late Victorian buildings that surround the square will be given new life, and the commercial buildings will be put to new uses, if property owners subscribe to the proposed program of rehabilitation.

An ambitious project, already under way, is the restoration of the town of Mokelumne Hill, an old California Gold Rush town. A group of San Franciscans, headed by John Carden Campbell of Campbell & Wong, has restored and is now operating the town's hotel; soon work will begin on some of the town's other buildings which will be used for various businesses. Future plans include construction of a resort motel using the ruins of a group of old buildings, and restoration of an old meeting hall for a variety of entertainment uses.

But single buildings also are being given new life by both sentimental and appreciative professional people. Two old buildings in San Francisco have been restored (with some interior changes) to house the offices of attorney Mel Belli and to provide rental space; and in Portland a dignified two-story building is being restored and remodeled for the offices of Neil Farnham, architect.



Architect Neil Farnham of Portland, Ore., is preserving a fine landmark and providing himself with offices in this building near the downtown district by remodeling it

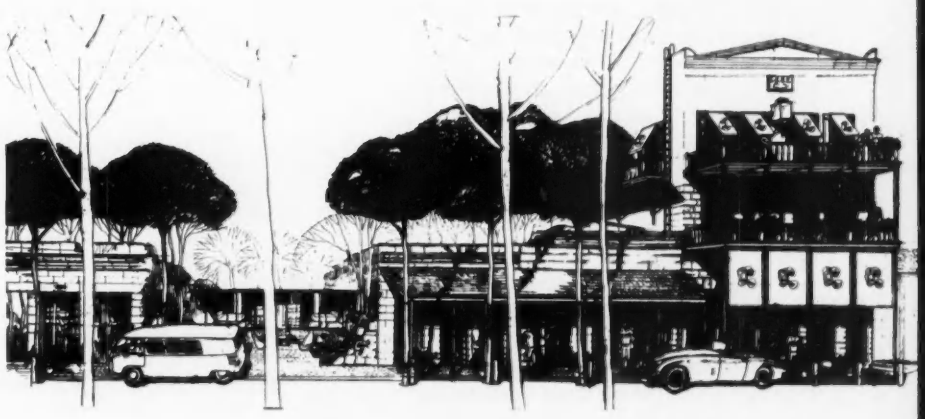




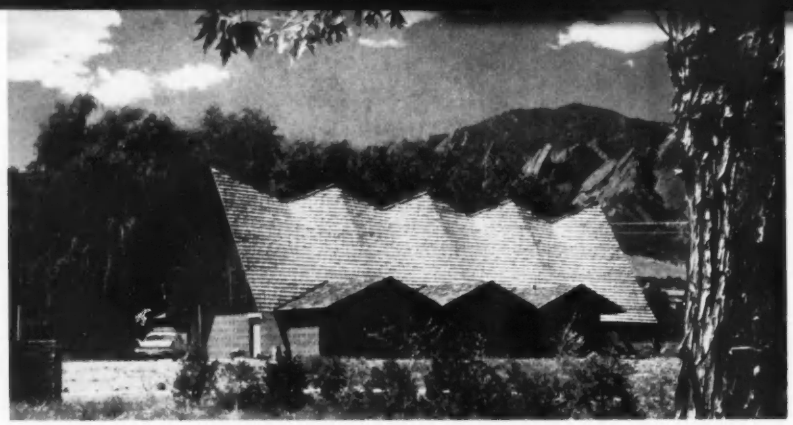
With gaudy black and gold trim, the old building on the site of the founding of Freemasonry in California has been restored to a splendor probably exceeding its original state. Bruce Heiser was architect



Mokelumne Hill in the Mother Lode country is being restored to some of its earlier vigor and vitality. A motel resort is to be built incorporating parts of old buildings on its site into its own walls and foundations. Campbell & Wong, Worley K. Wong, Architect







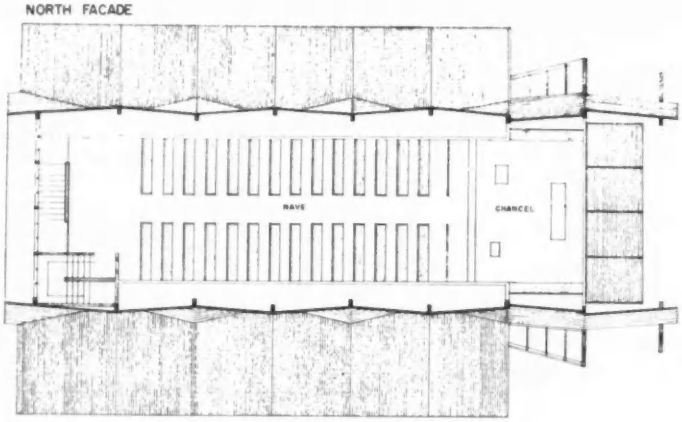


METHODIST CENTER FOR UNIVERSITY STUDENTS

Hobart D. Wagener, Architect

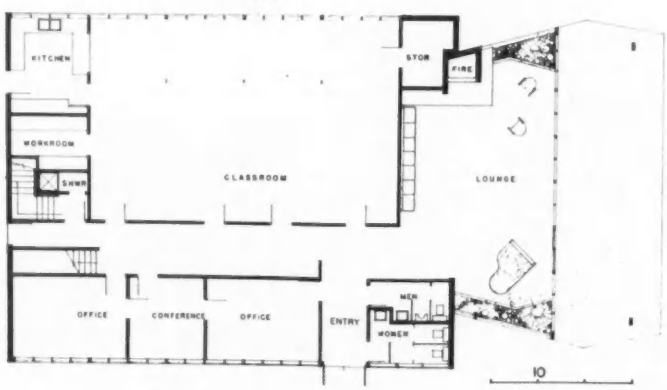
Under the undulating roof of this building for the Methodist Student Center at the University of Colorado in Boulder is a chapel for special services, weddings and other religious services; on the ground floor an informal lounge and meeting room invites leisure-time activities. This combination of facilities not only had economic advantages but is particularly appropriate to the Center's program. The chapel's colored glass wall provides, the architect says, "most of the emotional quality" in the room; but the quality of the roof planes, catching light and shadow in wide variation of effect, anticipates this subtly-stated experience. A broad overhang on the west protects from sun but permits view of mountains.

NORTH FACADE



CHAPEL FLOOR PLAN

MAIN FLOOR



Professional News

Elections and Appointments

The Consulting Engineers Association of California recently elected *Frank E. Alderman, president; Thomas R. Simonson,* vice-president; *Hugh B. Brewster,* secretary-treasurer; *Bertram W. Goodenough, Dudley Deane, Robert M. Kennedy, Engle F. Randolph, William F. Ropp; Peter V. H. Serrell,* and *Jonathan G. Wright,* directors.

Worley K. Wong, partner in the San Francisco architectural firm of Campbell & Wong, has been appointed to the State Board of Architectural Examiners by California's Governor Edmund G. Brown.

New Firms, Office Changes

George Nelson & Company, New York industrial designers, have opened a West Coast office at 2334 Kenilworth Avenue, Los Angeles, Calif.

Denman S. Kingman, consulting engineer, has moved his offices to 1907 University Ave., Palo Alto, Calif.

Eugene Kinn Choy, Los Angeles, Calif., architect, has opened a San Francisco office, to be known as *Choy and McWilliams,* with associate *Jack McWilliams.* The name of the Los Angeles office will be changed to *Eugene Kinn Choy, A. I. A., & Associates.*

George Wellington Stoddard, Seattle, Wash., architect since 1920, is retiring from the firm of *George W. Stoddard-Huggard & Associates.* During his professional career, Stoddard served as president and vice president of the Washington State Chapter, A. I. A., as a member of the chapter's executive board for seven terms, and as a chairman of the Seattle Civic Arts Committee. He will retain association as a consultant with the firm, to be continued under the name of *Stoddard and Huggard.*

Awards

Richard J. Neutra, Los Angeles, Calif., architect, was awarded top honors in the recent design competition for the new municipal theater of Duesseldorf, Germany.

Washington State Forms Architects' Council

The three chapters of the American Institute of Architects in Washington—Washington State, Spokane and Southwestern Washington—have voted to form a State Council of Architects. The move was approved as an "effective way to deal with state legislative problems," and in view of the Institute's proposal to enlarge regional areas, the fact that state organizations may be given more importance was also a consideration.

The new State Council will have six members from each chapter appointed by the chapter executive boards and will elect a chairman, vice-chairman and secretary-treasurer. These offices will be rotated among the chapters. Three sub-committees—national legislative, administration and inter-chapter affairs—will be set up.

California is the only other state in the West to have a State Council.

Screen Wall Design Awards

With the increased use of screen walls, manufacturers of perforated precast masonry units are on the look-out for new designs for the units. A recent national competition, the Satel-lite Screen Wall Design Contest sponsored by the North Hollywood, Calif., Concrete Tile Company, attracted hundreds of entries.

First prize went to *Charles W. Walton,* designer for Jones & Emmons, Los Angeles architects; second prize to *Mildred Bavetta,* landscape designer; and third to *Wilbur Griest,* specifications writer for Pasadena architect Culver Heaton. Mentions were presented to *Howard Shoemaker,* designer for Jesse Hamblin, Stratford, Conn., architect; *J. B. Riddle,* of the landscape department, City of Los Angeles; and *Martin Jung,* draftsman for Paul R. Williams, Los Angeles architect. A special award for a concrete unit adaptable to both structural and screen wall use went to *Richard C. Niblack,* director of design for Charles Luckman Associates, Los Angeles.

The jury included Mrs. Valley Knudsen, of the Los Angeles Beautiful Committee, Arthur B. Gallion, dean, School of Architecture, University of Southern California; Florence Schmidt, Building Art Center; Harold W. Grieve, F.A.I.D.; and Courtland Paul, landscape architect and past president, C.C.L.A.

$4.4 Million to Western Engineering Schools

Three California technical schools have received Ford Foundation grants intended to bolster the quality of engineering education, said by the Foundation's president, Henry T. Heald, to be "lagging". CalTech, UCLA and Stanford will share in a $19 million fund being given to 10 U.S. universities for improving education and studying curricula.

Announcing the grants at a Washington, D. C., meeting of the American Institute of Consulting Engineers, Mr. Heald said: "In the last two decades a revolution has been under way in the practice of engineering, yet engineering education—the gateway to professional practice—has lagged behind. Most engineering students in their late teens and early 20's are being equipped for the engineering of the last half of the twentieth century by being indoctrinated with the art and practice of the 1950's."

While all three Western schools will use the major portions of their grants to strengthen their engineering faculties, UCLA will also undertake a five-year study of its engineering curriculum.

San Diego Article Wins A.I.A. Writing Award

A lively attack on the apathy of San Diegans has won second prize in the American Institute of Architects' annual journalism awards program for James Britton, associate editor of *San Diego and Point* magazine. Britton criticized his city for permitting decentralization to threaten seriously the downtown area and for not protesting against the growing jungle of billboards and the construction of buildings such as the new courthouse and an open parking structure known as the Parkade.

"Tomorrow's people, one must believe, will grow up with more cultivated feeling than is evident in the welt of today's commercialized unfeeling. So buildings and urban situations that do not have a superior esthetic will be outmoded; they will lose their appeal," writes Britton. "Buildings should be planned to last for centuries, and we should be educated to cherish them for centuries. If we had such an education we could start to produce architecture again after the long dry period in which almost the whole world has built nothing but utility shacks of various

continued on page 32-24



Western Buildings in the News

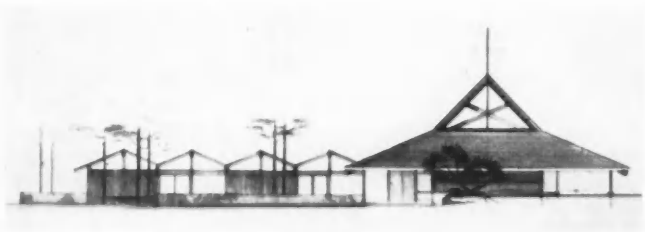


OFFICE AND WAREHOUSE: This new office warehouse for Parke Davis Company in Los Angeles' industrial district, will be the second new building to be built in the West in the company's expansion program. The office building structure (right) is of reinforced concrete; exterior wall panels and a screen suspended from the roof will be of aluminum. The warehouse is to be of tilt-up construction with precast lightweight concrete roof panels. Architects: Charles Luckman Associates

BEACH RESTAURANT: This new dining pavilion for the Stuft Shirt Restaurant at Port Orange in Newport Beach, Calif., is built out over the water and will provide an unobstructed view of Newport Bay and of a marina to be developed nearby. The shallow vaults roof a 300-seat dining room. Architects: Ladd & Kelsey



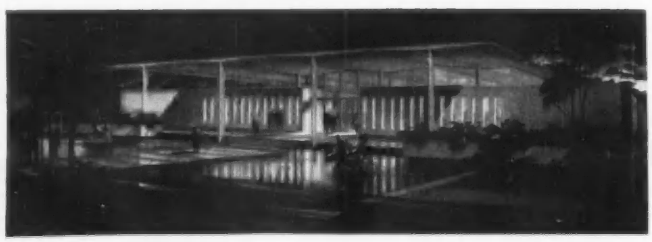
COLLEGE CHURCH CENTER: The $100,000 Peasley Chapel Center at Whittier College, Whittier, Calif., will include both the chapel and a music building and choir rehearsal hall connected to the chapel by an arcade through the patio between the structures. The chapel is framed with glued wood arched trusses; its exterior facing is stone tile except on the south where reinforced concrete panels frame a large window the full height of the building. Architect: William H. Harrison, F. A. I. A.



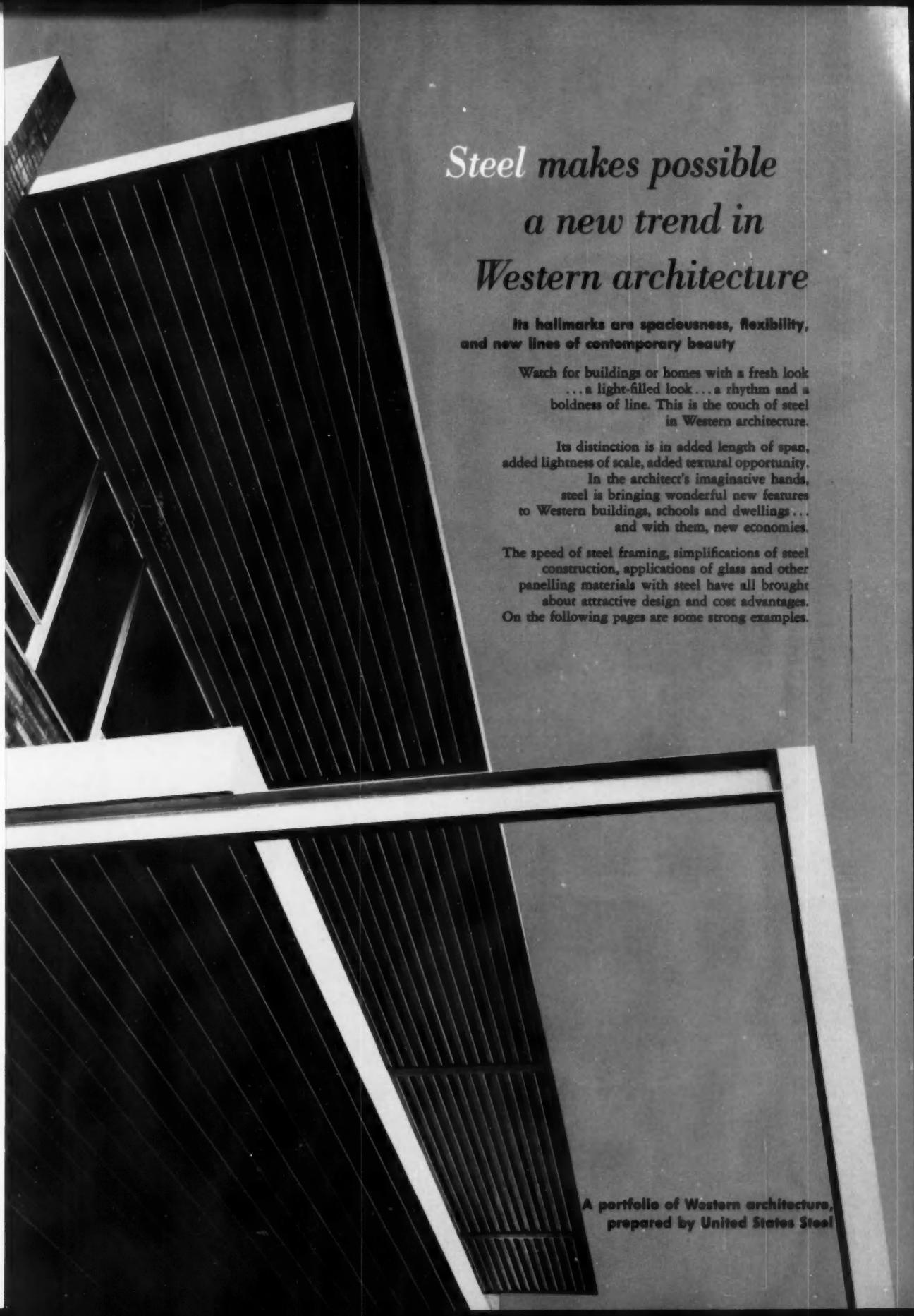
CHAPEL FOR A MOUNTAIN SITE: Rough-cut lumber and native stone will be used to relate the Rockland Memorial Church and community center to the mountain area in which the building is situated. The chapel is surrounded by a walk sheltered by the deep overhang of the roof; the community room has a folded plate roof of wood. The end wall behind the altar is entirely of glass. Architect: William C. Muchow



INDOOR-OUTDOOR LIBRARY: A gift to the city of Fullerton, Calif., from an industrial foundation, this new public library will function also as cultural and community center. An auditorium, music room and wall space for art exhibitions provide for these additional activities. The building's park-like setting and several patios for outdoor reading and a large reflecting pool at the entrance are unusual features. Narrow openings in the front wall will be filled with stained glass. William L. Pereira & Associates



BRANCH LIBRARY IN HAWAII: After many years of controversy, the branch library at Kailua, Hawaii, on the windward side of Oahu, is under construction and due to be completed this year. Concrete frame, steel joists and concrete block are combined with lava rock, known locally as "aa," to provide a contemporary building within the region's tradition. Reading rooms are naturally ventilated through large openings shaded by an anodized aluminum sunscreen. Architects: Lemmon, Freeth, Haines and Jones



Steel makes possible a new trend in Western architecture

Its hallmarks are spaciousness, flexibility, and new lines of contemporary beauty

Watch for buildings or homes with a fresh look ... a light-filled look ... a rhythm and a boldness of line. This is the touch of steel in Western architecture.

Its distinction is in added length of span, added lightness of scale, added textural opportunity. In the architect's imaginative hands, steel is bringing wonderful new features to Western buildings, schools and dwellings ... and with them, new economies.

The speed of steel framing, simplifications of steel construction, applications of glass and other panelling materials with steel have all brought about attractive design and cost advantages. On the following pages are some strong examples.

A portfolio of Western architecture, prepared by United States Steel



Whelan Building, Palo Alto, Calif. / Architect: Knorr-Elliott Associates, San Francisco

flexible space...

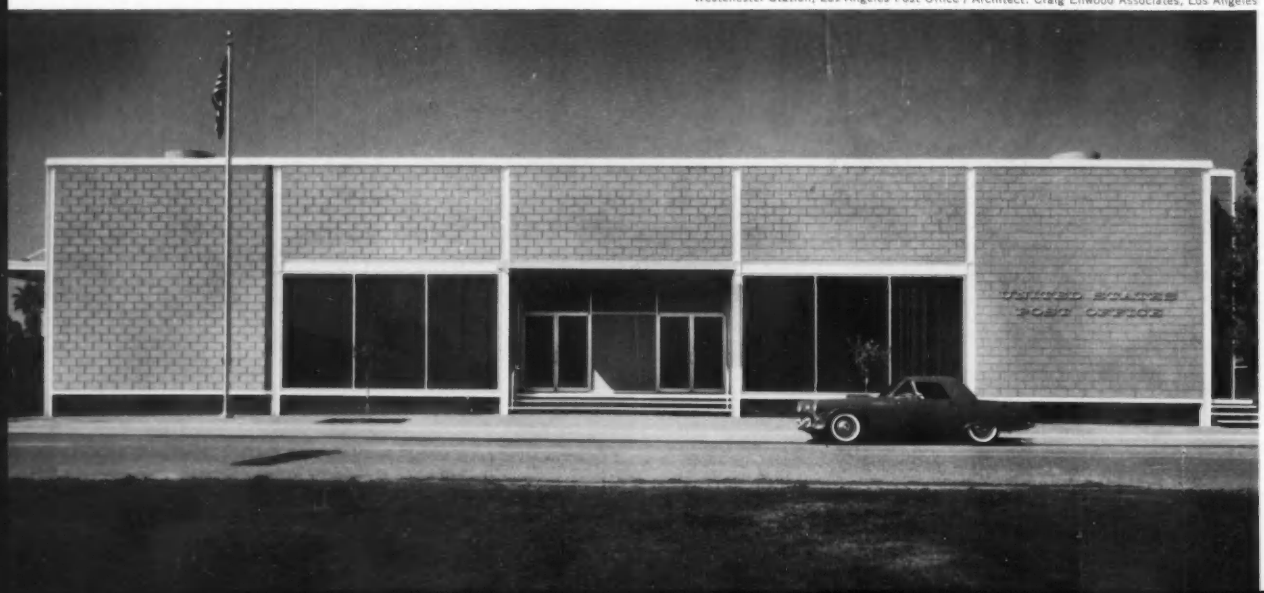
Enter this office building and you sense the pleasant spaciousness born of steel. There are no heavy, load-bearing walls. Instead, the whole building is "contained" in a decorative cage of steel—which was framed in four days, allowing other construction trades to complete the job faster. Interior walls are movable to provide for flexible office planning.

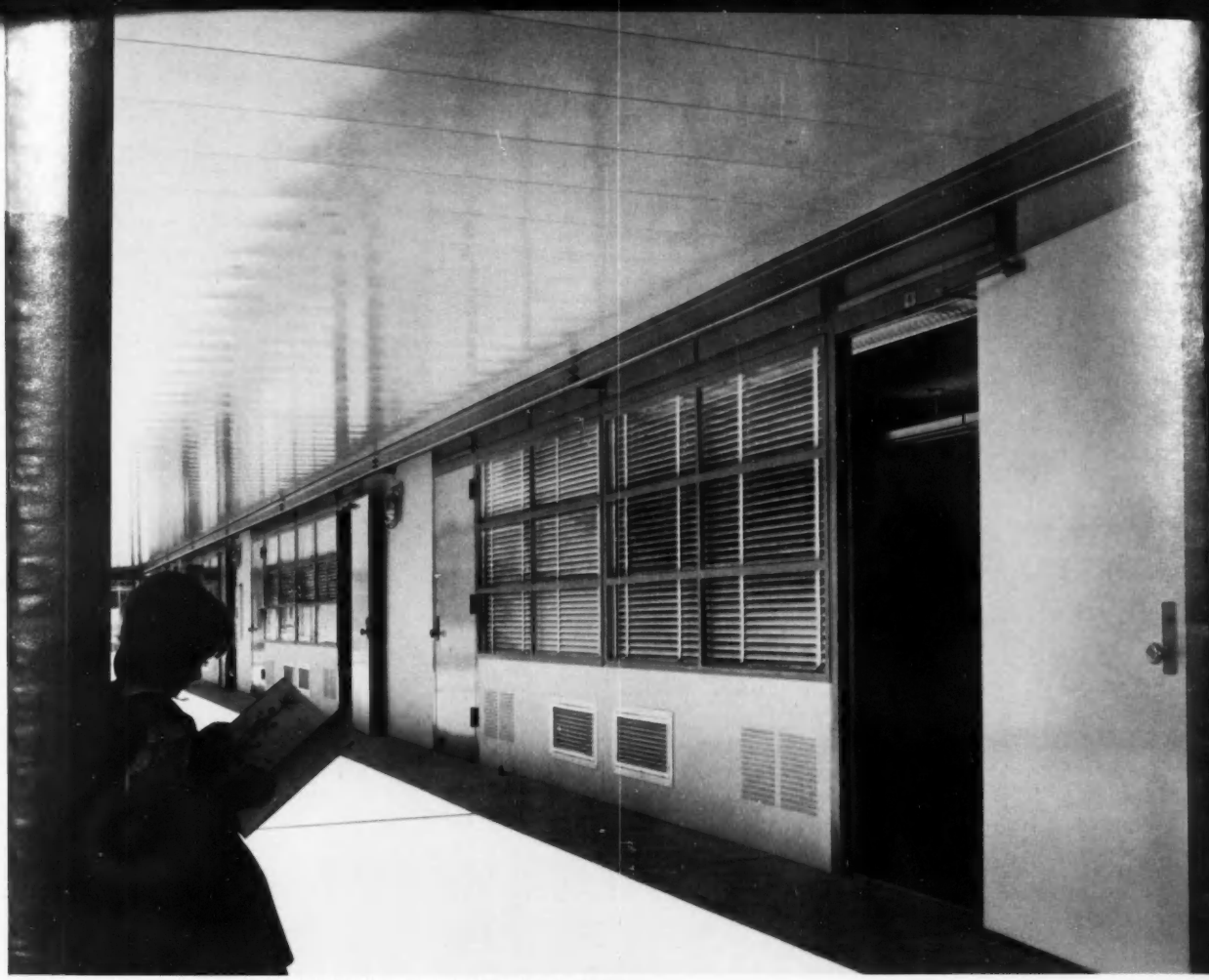


ARCHITECTURAL DETAIL: *Whelan Bldg. stairway floats on a single 8" WF beam of USS Structural Steel. Steel trays of exposed aggregate form treads. Stringers are curved, triangular ribbons of USS Steel Plate.*

Simple beauty in this steel-framed Post Office building was admired at the U. S. exhibit in Moscow. The modular design is outlined in exposed steel. Facade panels are blue concrete blocks, a striking combination of color and texture. Equally startling is the low cost of this Post Office, which was architect-designed and competitively bid.

Westchester Station, Los Angeles Post Office / Architect: Craig Ellwood Associates, Los Angeles





Justice Street School, Canoga Park, Calif. / Architect: Roy Donley & Associates, Los Angeles

functional efficiency...

ARCHITECTURAL DETAIL: *Thirteen Vierendeel trusses of USS Structural Steel support 335'-long gymnasium roof at Mills High School. Justice Street School is framed in columns, beams and purlins of USS Structural Steel.*

Roof floats independently above classroom curtain walls which bear no weight. Exposed steel framing carries the roof and walls—permits changes in classroom planning at minimum expense and yields 100% use of interior floor area. Doors, windows and walls are all interchangeable.

Today's school in steel emphasizes light, airiness, protective strength. Wide-span steel roof decking forms shady, sheltered concourses. Classroom space increases because of thin steel walls—insulated and sound-proofed. This fireproof, earthquake-safe school costs no more per square foot than many non-steel schools built the same year. One of more than 500 steel schools built in the West by Calcor Corp., Huntington Park, Calif.

Mills High School, Millbrae, Calif. / Architect: John Lyon Reid & Partners, San Francisco







Architect: Craig Ellwood Associates, Los Angeles

expandable planning...

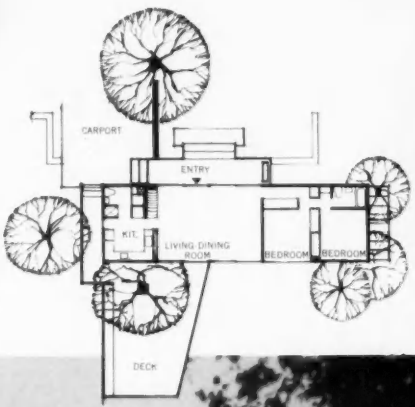
Anchored in granite, this dramatic steel home commands a sweeping view of the valley below. Though the house seems a part of the hill, a soaring deck on cantilevered steel frames marries air of Sierra foothills. Tw anchored to solid rock supp leaving the boulders undis

Architect: Thorne, Berkeley, California

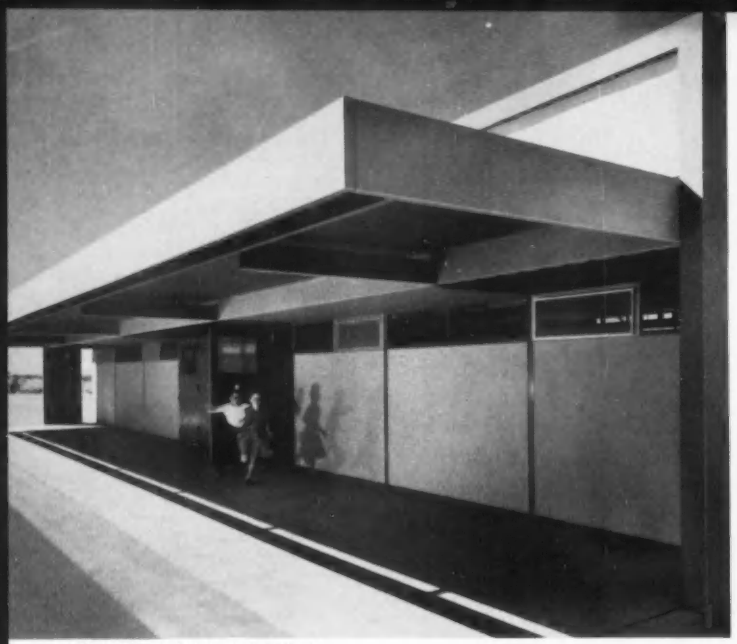


"Impossible" building site becomes *magnificent* with steel. Poised on 28′ steel columns, this home juts out from the street to exploit the breath-taking view of beach-city lights and the ocean. Versatile steel framing here will also permit addition of master bedroom suite beneath living-dining area at a later date.

ARCHITECTURAL DETAIL: *"Stilt" house utilized USS 4H13 Structurals in columns, 8" WF in frame. "Boulder" home was framed using 16WF36 USS Structural Steel girders and 8B15 rigid steel frames. The plan below shows arrangement of rooms in the 1020 sq. ft. "Boulder" home.*



arries it to the clear
s. Two steel beams
k support the house,
undisturbed.



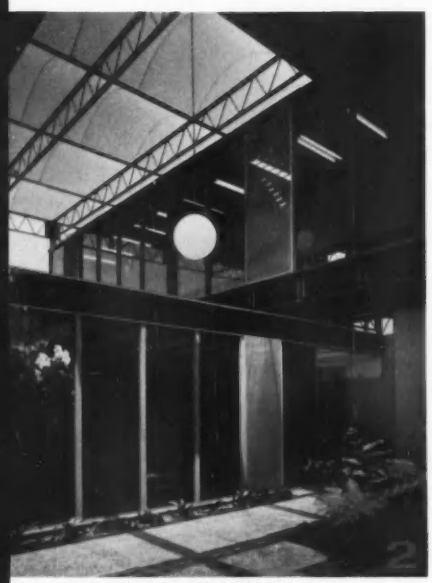
Architect: Wexler & Harrison, Palm Springs



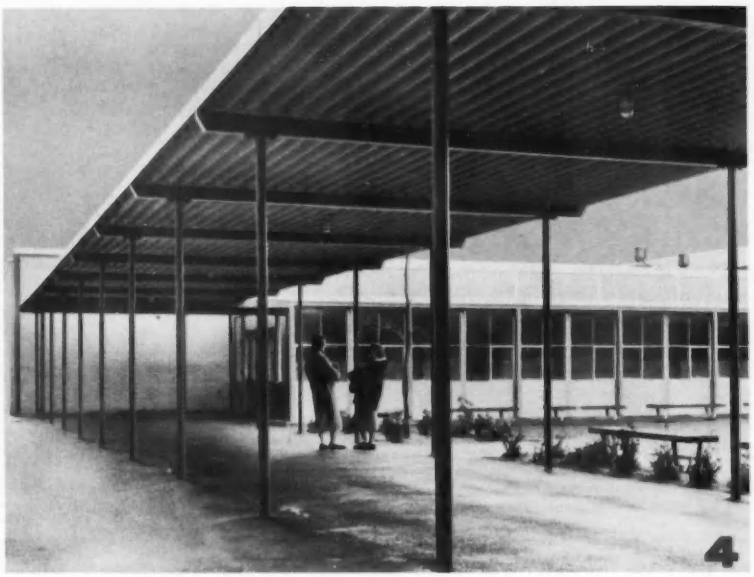
Architect: Craig Ellwood Associates, Los Angeles



Archit



Architect: Smith & Williams, Pasadena,



Architect: Naramore, Bain, Brady & Johanson, Seattle



Archi

Steel

Only steel ca

1 Expandable All-Steel School—The Cathedral City School, near Palm Springs, Calif., has ample space for students today, but as the community grows–so grows the school. The 8′ module means classrooms may be expanded 4′ or 8′ with minor framing and construction changes.

2 Major Savings from Vaults of Steel. This high-style steel office for CFP in South Pasadena, Calif., is crowned with a graceful series of high vaults of steel to shut out 100% of the hot south sun and admit 73% of the north light, thus cutting air-conditioning costs by nearly one-third.

3 Inviting Steel Portal attracts customers. The South Bay Bank building, Manhattan Beach, Calif, is a striking example of the symmetrical beauty of steel framing, complemented with an airy light-weight grillework around the entryway.

4 Budget-Aid Steel School. The Queen Anne High School addition, Seattle, Washington, saved on its building and maintenance budget with USS Steel. Less framing, faster assembly, lowered labor and maintenance costs made it possible.

5 All-Steel Fire Station, Lancaster, California, blends functional versatility with economy. It is architect-designed with a rigid, pre-engineered frame and durable roof and wall panels of USS Steel. Ideal answer for modern low-cost municipal buildings in fast-growing communities. Built by Calcor of Huntington Park, Calif.

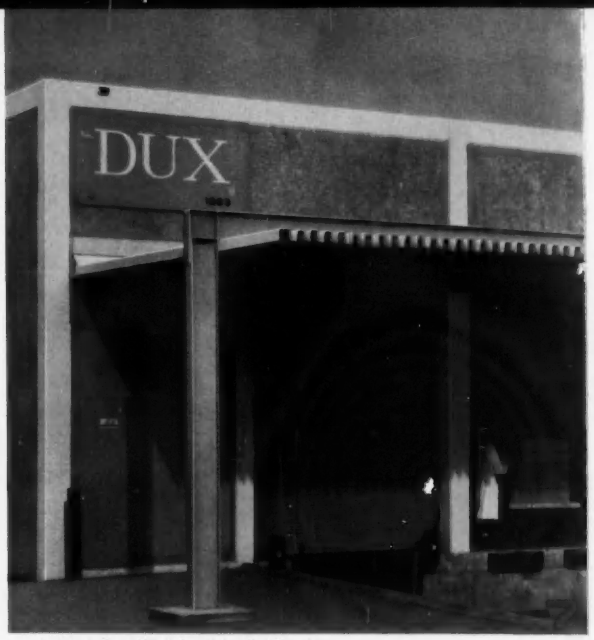
6 Steel-Framed House of Glass. This owner-designed steel house in Salt Lake City tal
wooded
column
Throug
colorful
their w

7 Pr
Su
furnitur
game, C
the bea
high tr

see inside



Architect: Roy Donley & Associates, Los Angeles



Architect: Knorr-Elliott Associates, San Francisco



Architect: Dean L. Gustavson Associates, Salt Lake City,



Architect: Richard Neutra, Los Angeles

can do so many jobs so well...

ity takes full advantage of its beautifully ooded Utah site. The frame of steel, with olumns exposed, eliminates bearing walls. hrough walls of glass, the owners enjoy a olorful picture of changing seasons from heir warm and comfortable home of steel.

7 Protective Canopy Designed in Steel. Supported by twin steel columns, this rniture loading dock canopy at Burliname, California, is welded to the *bottom* of he beam to provide maximum clearance for igh trucks. An imaginative touch of steel to complement the over-all design.

8 Suspended Canopy of steel decking shelters the broad windows of Northwestern Mutual Insurance building from sun and rain. This Los Angeles building also demonstrates the compatibility of steel with other materials for clean and crisp design.

Architects... engineers... businessmen... school officials and home planners, before you build—consider the advantages of trend-setting steel. Find out more about steel—and compare it with other materials.

USS Columbia-Geneva Steel Division of United States Steel

USS IS A REGISTERED TRADEMARK

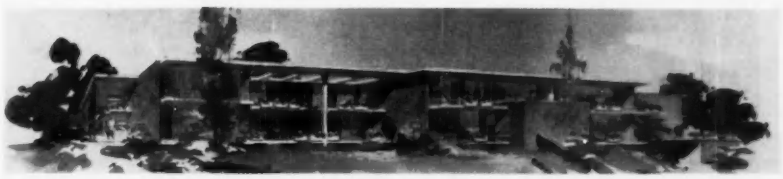
Western Buildings in the News



RESIDENCE HALL FOR "STREET-CAR" CAMPUS: Just completed at the University of California, Los Angeles, is this 800-student, 10-story men's residence hall, the first of eight to be built there, thus ending the campus' phase as a "street-car college." Adjacent to the hall is a one-story dining, recreation and lounge wing connected by a bridge to a second floor elevator lobby. Each floor contains 42 student rooms, a graduate student's room and a lounge area with balcony. Parking for 124 cars is provided at the site. Exterior surfacing is buff-tan brick on east and west ends, reinforced concrete painted in shades of tans and browns on north and south. Welton Becket & Associates were architects and engineers



FOR FINE AND INDUSTRIAL ARTS: Arts students at the University of California's Santa Barbara campus are now using this new building. Actually two pairs of structures connected by covered walks, the building houses studios for painting and sculpture, ceramics and lithography in its fine arts section and laboratories for graphic arts, photography and electronics as well as for instruction in elementary education crafts programs. Charles Luckman Associates were architects

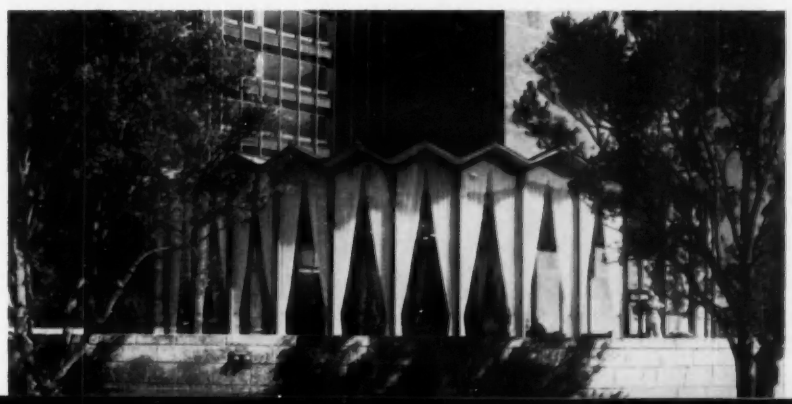


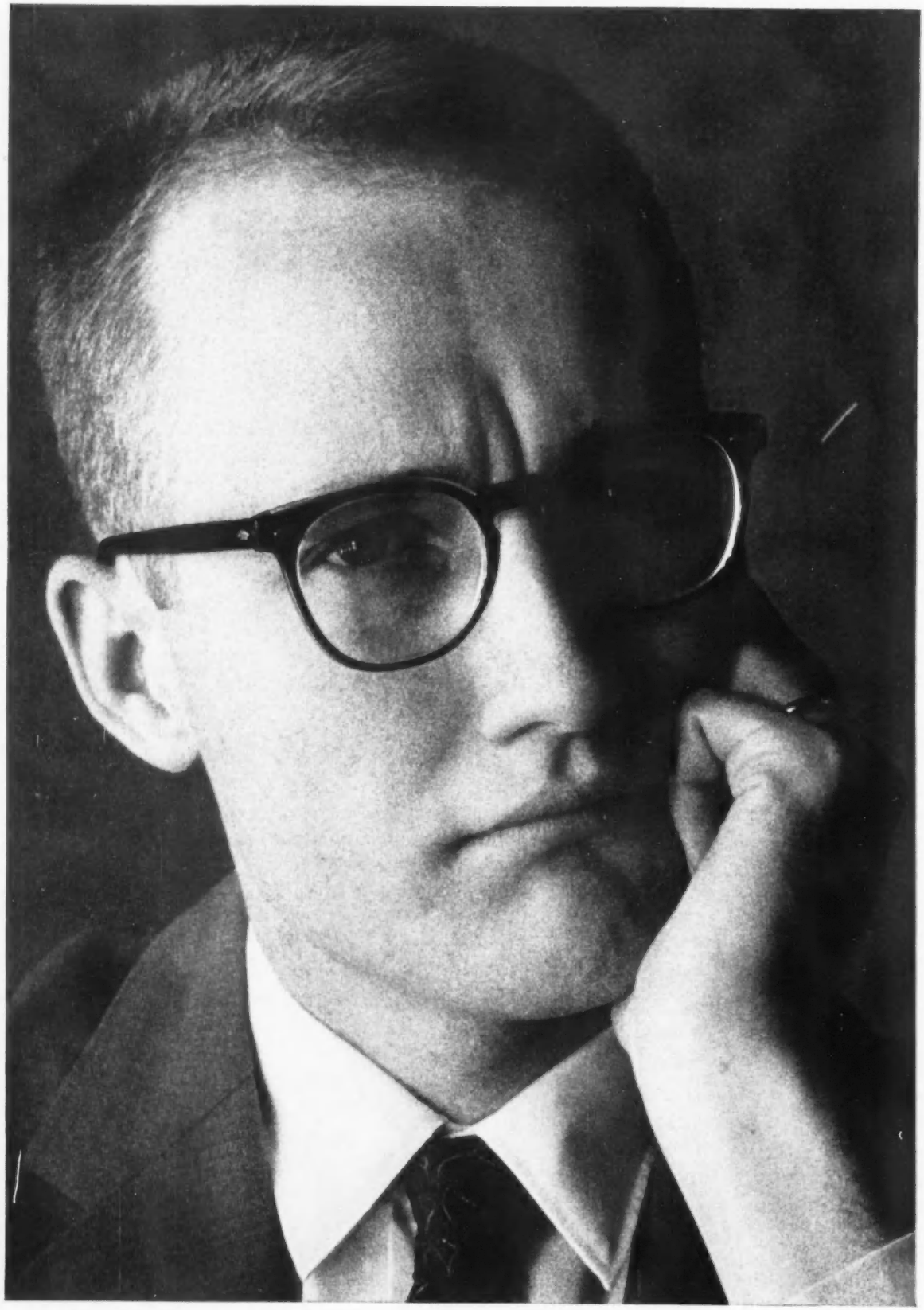
FIRST UNIT FOR A NEW CAMPUS: Now under construction, the academic building for the new Southern California School of Theology at Claremont, Calif., is the first unit in a master plan for the new campus which will eventually provide for a student body of 300. The academic building will consist of three levels, the lowest for parking and the upper for classrooms and offices. Classrooms will open onto small patios. Charles Luckman Associates are architects



A BANK WITH A VIEW: The floor-to-ceiling glass front of the new Central Valley Bank in downtown Oakland, Calif., will face Lake Merritt, a pleasant oasis in an otherwise fully developed business area. Concrete block sunscreens will shield east and west facades on the upper floor. Welton Becket & Associates are architects

A BANK "IN THE ROUND": Now complete and in use, American Trust Company's Crown Zellerbach branch, located on the Market Street side of the new plaza, is a glass and steel building in which some revolutionary banking procedures have been instituted. The structure, too, is revolutionary for a bank: all operations are completely visible through its glass walls; the interior is quiet, more like an executive office than the usual machine-noisy bank. Skidmore, Owings & Merrill were architects





choosy?
←he can't afford not to be

He and his wife are about to take the big plunge. A house of their very own. Nice. But they're mighty nervous about the whole thing. He's gone to the folks, his boss, friends for advice. They've told him what to look for. One thing: make sure the equipment is made by a reputable manufacturer... equipment like heating, air conditioning and water heaters. He's made his mind up. He's got to be choosy. Be ready to satisfy him. Lose that first battle and you've lost a sale. That's why the smartest builders you know rely only on equipment with quality names. And they let prospects know these names. Builds confidence. Helps make the sale. You know most of the names. Names like

Day & Night

...a name with confidence-building buy-appeal in **Heating & Air Conditioning**



Get Day & Night's complete Builder Kit in heating, air conditioning and water heating. Send today to: DAY & NIGHT Manufacturing Co., 855 Anaheim-Puente Road, La Puente, California.

Western Construction Cost Indexes

Presented by Clyde Shute, Director of Statistical Policy, Construction News Div., F. W. Dodge Corp., from data compiled by E. H. Boeckh & Assoc. Inc.

Labor and Materials: U.S. average 1926-1929=100

DENVER

PERIOD	RESIDENTIAL Brick	RESIDENTIAL Frame	APTS., HOTELS OFFICE BLDGS. Brick and Concrete	COMMERCIAL AND FACTORY BLDGS. Brick and Concrete	COMMERCIAL AND FACTORY BLDGS. Brick and Steel
1939	112.0	112.1	116.1	117.8	117.0
1948	217.8	218.1	202.7	207.0	206.7
1949	215.8	212.9	211.0	215.3	214.6
1950	230.0	228.2	218.8	221.3	221.2
1951	249.7	246.6	236.5	237.2	238.9
1952	253.6	249.4	243.4	245.1	245.6
1953	259.6	254.0	255.0	260.9	258.1
1954	258.9	252.0	259.1	266.2	263.4
1955	266.6	260.9	266.3	273.2	271.7
1956	274.9	269.3	275.8	282.3	285.1
1957	281.3	272.2	285.4	293.1	296.4
1958	282.2	272.0	288.1	295.9	298.8
1959	288.7	278.9	295.2	302.9	304.8
Dec. 1959	291.7	282.1	299.2	306.5	310.4
Jan. 1960	291.7	282.1	299.2	306.5	310.4
Feb. 1960	292.3	282.7	300.0	307.1	311.0
	% Increase over 1939				
Feb. 1960	161.0	152.2	158.4	160.7	165.8

LOS ANGELES

PERIOD	RESIDENTIAL Brick	RESIDENTIAL Frame	APTS., HOTELS OFFICE BLDGS. Brick and Concrete	COMMERCIAL AND FACTORY BLDGS. Brick and Concrete	COMMERCIAL AND FACTORY BLDGS. Brick and Steel
1939	97.2	93.6	103.7	104.9	106.2
1948	215.9	216.5	205.8	210.0	209.8
1949	207.0	203.2	209.9	212.4	210.2
1950	224.1	222.8	217.4	219.0	217.5
1951	241.0	239.5	235.1	236.9	236.6
1952	243.8	241.7	239.8	242.6	241.5
1953	250.5	246.5	252.3	258.2	255.3
1954	251.0	245.3	257.7	265.7	261.8
1955	262.1	256.6	269.3	278.0	273.9
1956	272.6	266.7	282.9	292.9	289.3
1957	275.4	267.9	292.8	303.3	303.7
1958	277.9	286.6	302.6	314.5	316.4
1959	288.7	279.1	314.9	326.9	327.6
Dec. 1959	296.3	284.2	322.4	335.1	333.5
Jan. 1960	296.3	284.2	322.4	335.1	333.5
Feb. 1960	298.6	286.0	324.6	337.0	335.5
	% Increase over 1939				
Feb. 1960	207.2	205.5	198.6	221.2	215.9

SAN FRANCISCO

1939	105.6	99.3	117.4	121.9	116.5
1948	218.9	216.6	208.3	214.7	211.1
1949	213.0	207.1	214.0	219.8	216.1
1950	227.0	223.1	222.4	224.5	222.6
1951	245.2	240.4	239.6	243.1	243.1
1952	250.2	245.0	245.6	248.7	249.6
1953	255.2	257.2	256.6	261.0	259.7
1954	257.4	249.2	264.1	272.5	267.2
1955	268.0	259.0	275.0	284.4	279.6
1956	279.0	270.0	288.9	298.6	295.8
1957	286.3	274.4	302.9	315.2	310.7
1958	289.8	274.9	311.5	326.7	320.8
1959	299.2	284.4	322.7	338.1	330.1
Dec. 1959	304.7	289.2	329.5	345.6	335.7
Jan. 1960	304.7	289.2	329.5	345.7	335.7
Feb. 1960	306.1	290.6	332.7	347.8	339.9
	% Increase over 1939				
Feb. 1960	189.9	192.6	183.4	185.3	191.7

SEATTLE

1939	104.4	96.7	119.2	125.3	118.7
1948	216.3	211.4	211.5	216.6	216.9
1949	214.2	203.9	220.7	228.5	225.3
1950	224.1	213.6	227.1	234.5	230.3
1951	245.1	232.7	247.7	255.8	251.0
1952	254.3	239.8	258.8	267.7	263.8
1953	254.8	239.0	262.7	273.6	269.5
1954	253.3	236.1	266.6	279.1	274.0
1955	260.6	243.3	273.7	287.3	282.4
1956	273.5	254.0	288.5	303.4	299.0
1957	275.6	254.0	298.2	313.1	311.2
1958	279.9	256.4	306.0	324.0	320.8
1959	291.5	267.8	318.8	336.9	331.8
Dec. 1959	293.6	269.9	321.2	339.9	333.6
Jan. 1960	296.7	271.8	326.0	345.9	338.4
Feb. 1960	303.7	277.1	333.9	354.6	347.0
	% Increase over 1939				
Feb. 1960	190.9	186.5	180.1	183.0	192.3

Cost comparisons, as percentage differences, for any particular type of construction, are possible between localities, or periods of time within the same city, by dividing the difference between the two index numbers by one of them; i.e.:

index for city A = 110
index for city B = 95

(both indexes must be for the same type of construction).

Then: costs in A are approximately 16 per cent higher than in B.

$$\frac{110-95}{95} = 0.158$$

Conversely: costs in B are approximately 14 per cent lower than in A.

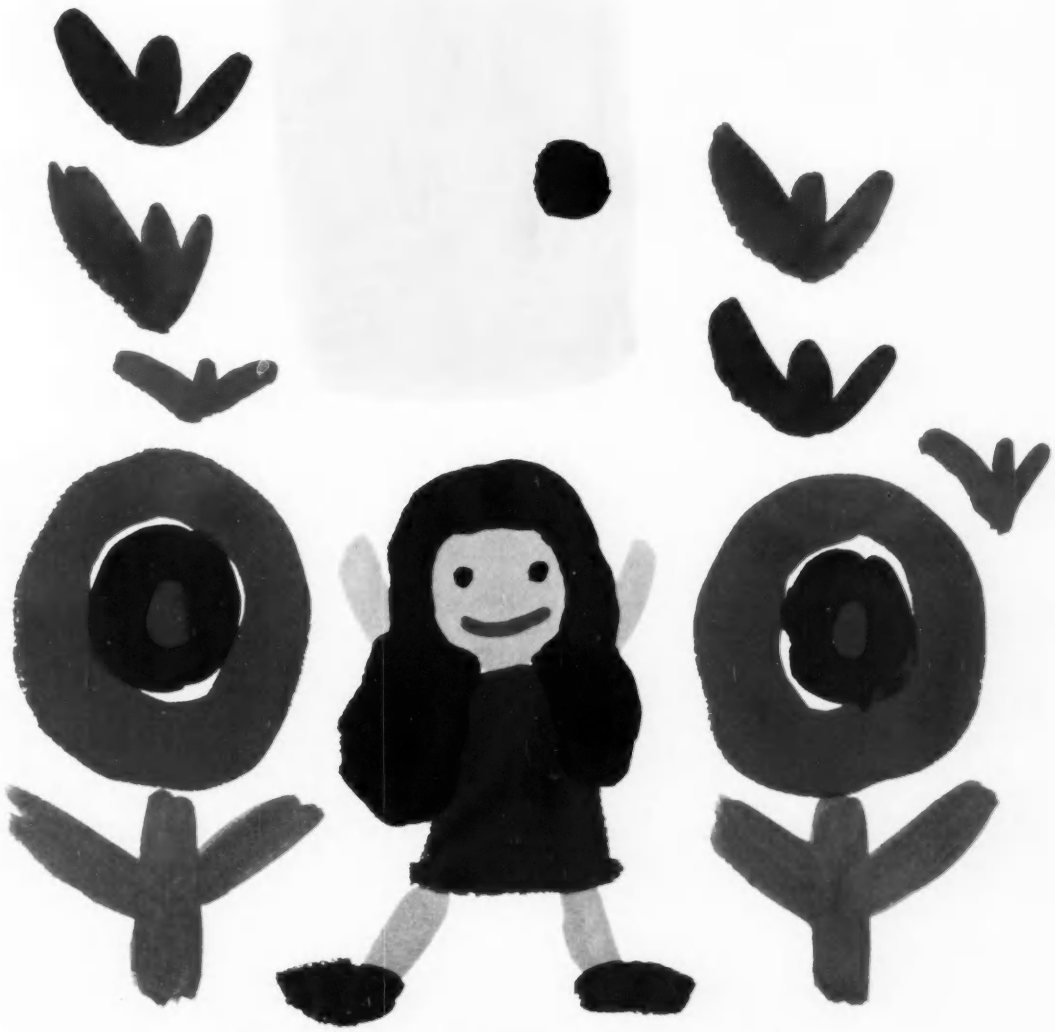
$$\frac{110-95}{110} = 0.136$$

Cost comparisons cannot be made between different types of construction because the index numbers for each type relate to a different U. S. average for 1926-29.

Material prices and wage rates used in the current indexes make no allowance for payments in excess of published list prices, thus indexes reflect minimum costs and not necessarily actual costs.

REMEMBER CERAMIC **TILE*THINK**

...IT'S A PROVEN FACT...IT SELLS HOUSES FASTER



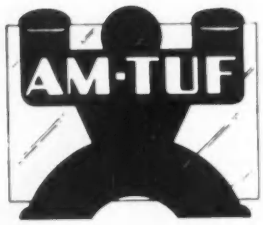
for peepul who like to know what other peepul are peering-about about.

those peepul who ask for "some tap water pleez" aren't thirsting so much for a drink. this is just an old ruse...an excuse...that they use. they're determined to peer at your sink! will they find it all stained where the blueberries drained or will it be shining and cleen? for a smile all the while, choose our dura-glaze tile...HERMOSA by GLADDING, McBEAN!

HERMOSA GLAZED CERAMIC TILE CREATED BY GLADDING, McBEAN & CO.

hey...send 10¢ to us at **THE GLADDING, McBEAN TILE*THINK CENTER,** 2901 Los Feliz, Los Angeles 39
for more good news for those of youse who are tile*thinkers*at*heart.

made in the west...



ARCHITECTURAL
TEMPERED GLASS

now available for immediate delivery from two California manufacturing plants—tempered glass—processed to your specifications.

Western architects no longer worry about high costs and slow delivery from eastern plants.

The design beauty plus the strength and safety of tempered glass is now available from two Coyne Tempered Glass manufacturing locations in California. This insures speedy and dependable processing and delivery of glass tempered to your specifications. For the first time in the West tempering from FIELD measurements is possible.

ideal for . . .

- SCHOOLS
- HOSPITALS
- INSTITUTIONS
- AIRPORT CONTROL TOWERS
- ENTRANCE DOORS
- WIND SCREENS
- BATH ENCLOSURES—and many, many other uses.

properties . . .

. . . 5 to 8 times the impact resistance of ordinary glass . . . heat resistant to 500° F . . . supports 4 times the weight of ordinary glass . . . will bend 4 times as far without breaking . . . if breakage does occur AM-TUF disintegrates into innumerable blunt-edged, small fragments and not into sharp spears like ordinary glass.

Free brochure available on request

COYNE TEMPERED GLASS PRODUCTS

20 FRONT STREET
SAN RAFAEL, CALIFORNIA

906 FACTORY LANE
P.O. BOX 606
OXNARD, CALIFORNIA

Waste Space

The "God of the Building"

Freshmen in CalPoly's Department of Architectural Engineering are often startled to find that they are required to use words as well as T-squares and triangles. It is a conviction of George Hasslein, the department's head, that architects should be able to express their thoughts and beliefs in words as well as sketches, and that they should be able to do so in writing as well as in conversation. So he starts his students early in learning something of the use of words.

The results are surprising—in more ways than one—and sometimes unexpectedly rewarding. This year's crop of essays on "The Architect and Architecture" produced a number of better-than-average compositions but none so perceptive, for all its brevity, as that by a student from another country. Here is what the architect is to him:

"It was during the time the cave man decided to leave the cave and make himself a better place to live that the history of this character started. Since people would rather live in nice, comfortable buildings, his characteristic will be carried on from generation to generation.

"He is the individual who impresses his feeling in the 'look' of the building. He knows the strength of the building, and so has the talent of making each creation much better than the last. It is his responsibility to make his work not only beautiful but so perfect and so strong that it will last for years and years to come. He is responsible for every single detail of the construction before it is built, for he knows he must appeal to the desires and comfort of the people who are going to live in this building.

"I call this character the 'god of the building.' People know him as an architect. I don't like the word 'architect' because it is too closely related to the term 'artist' in spelling and in the way it is pronounced. However, there is a wide difference between the 'god of the building' and the artist. They may use the same equipment, but an artist can never put himself in the same place or in place of the 'god of the building.' The 'god of the building' is strong, straight and realistic. The artist is soft, smooth and romantic. He (the 'god of the building') is the man who visualizes three dimensions and makes a good combination of these three.

"It was December 15, 1958 that I met the late Frank Lloyd Wright—Taliesin, West Scotts Saddle, Arizona. I went up there to ask him to give me an opportunity to stay with him and to learn. He asked me some questions and I was accepted into his school. What I saw there and what I have read in his books brought me to the standpoint of thinking about architecture as a philosophy of 'where to live' and the creative thought that goes behind the 'wall and the ceiling.' I also found out that the philosophy of the 'wall and ceiling' is a great field that was carried from generation to generation.

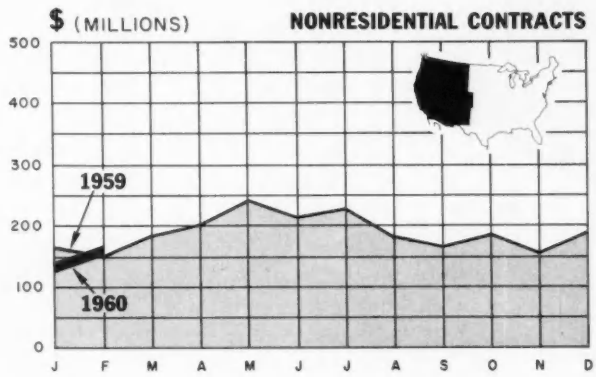
"That is what we call the world of the architect and of architecture."

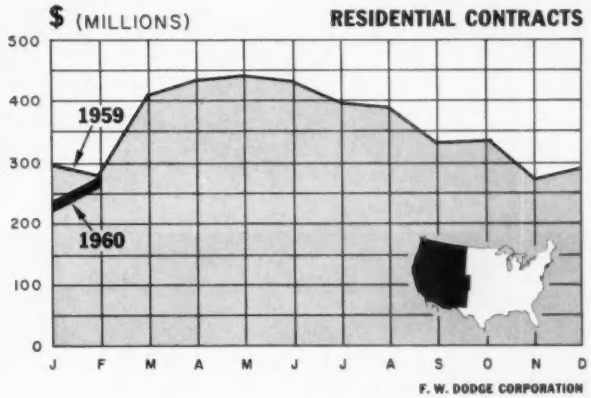
How many "gods of the building" have as well-thought-through a statement of what they are about in their daily practice? This young man's statement is an ideal, and not everyone could measure up to his specifications as "god of the building." In any art, however, an ideal is essential, and it is good that a young man should remind us of the ideal in architecture.

E. K. T.

Western Construction Trends

(For analysis of construction trends nationwide, see page 384)





F. W. DODGE CORPORATION

After getting off to a somewhat shaky start in January, contracts for future construction in the 11 states west of the Rockies bounced back in February and for the first two months of 1960 the trends in most categories were about as expected.

Total construction contracts in the West in February amounted to some $573 million, an increase of eight per cent over February 1959. For the first two months of 1960, contracts totaled slightly more than one billion dollars, but were four per cent below the comparable 1959 period.

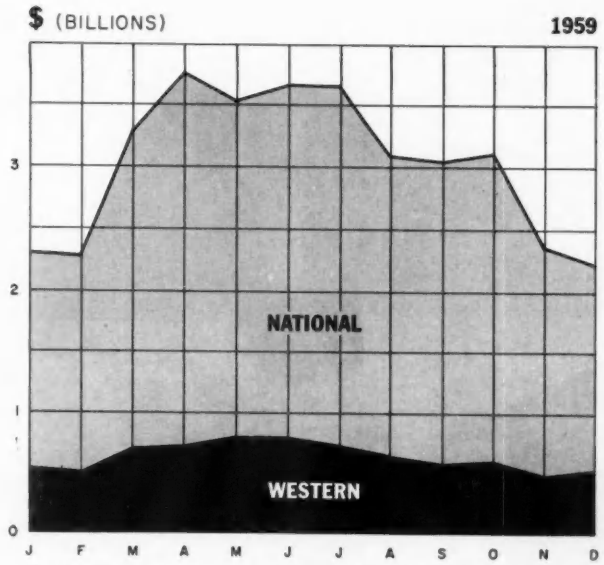
Contracts for Western nonresidential construction in the first two months were up two per cent over a year ago. Sparking the gain, as anticipated, was the manufacturing building category, with contracts showing a 31 per cent rise over the 1959 levels. It seems more than likely that manufacturing building contracts will continue to bolster the nonresidential category throughout the remainder of this year at least. According to the most recent survey of business spending plans taken early this year by the Department of Commerce and the Securities and Exchange Commission, American business firms expect to increase their outlays for new plant and equipment in 1960 by some 14 per cent over the 1959 level. Manufacturing firms will lead the way, with planned expenditures this year topping the 1959 figure by 25 per cent.

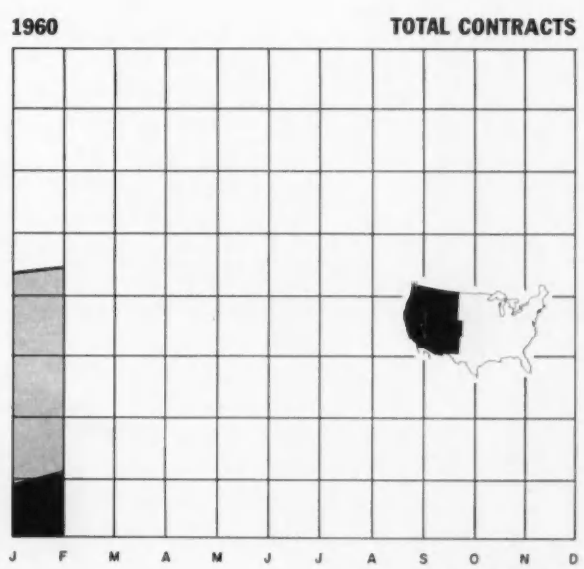
Strong gains were also recorded for social and recreational buildings and for public buildings in the West during the first two months. Sociologists would perhaps be interested to note that a sharp rise in contracts for jails and penitentiaries was chiefly responsible for the gain in public buildings, while at the same time religious building fell by ten per cent!

As most analysts expected, housing has fallen somewhat from year-earlier levels, with Western residential contracts down ten per cent in the first two months. The February figures, however, were decidedly more favorable than January. There have been signs of some slight easing in the money situation in recent months, and this could help the housing business considerably.

Western heavy engineering contracts in the first two months showed a two per cent rise over last year. February was particularly strong, with sharp gains reported for utility construction.

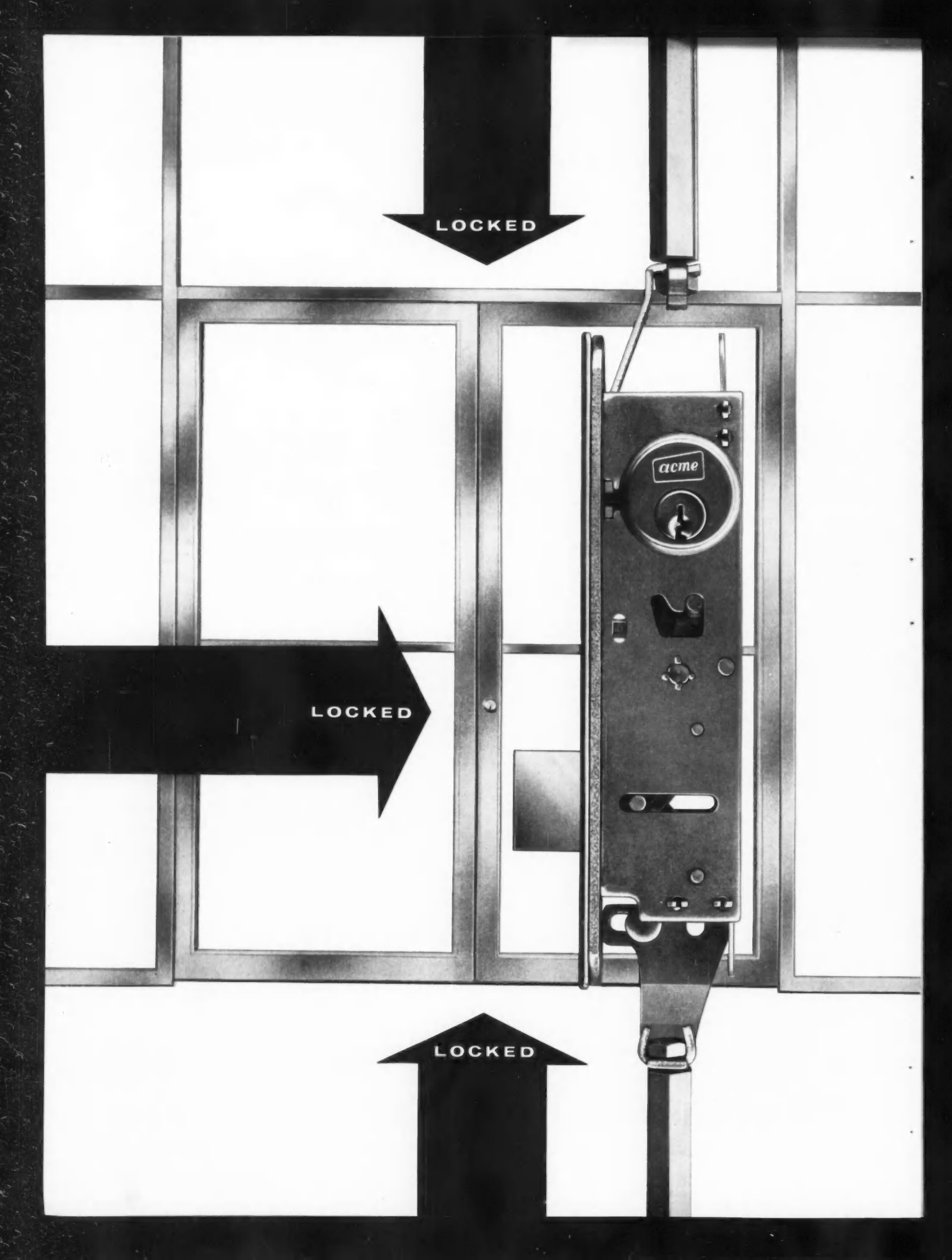
EDWIN W. MAGEE JR.
Economist
F. W. Dodge Corporation





Total contracts include residential, nonresidential, heavy engineering contracts

F. W. DODGE CORPORATION


LOCKED
LOCKED
LOCKED
acme

NEW!

the first 3-point lock for narrow-stile doors... total protection for commercial entrances with the lock that everyone has been waiting for

Acme Metal Molding Company is proud to be first in presenting this new and spectacular lock, the Jackson 3-Point.

Pairs of doors now can be securely locked at the head, floor and center with the first and only lock to offer 3-point protection for narrow-stile doors.

With Acme design and engineering assistance, this lock has been carefully developed to reach standards of performance not available in any other narrow-stile lock.

3-POINT. In its major form, the Jackson 3-Point gives narrow-stile doors, particularly pairs of doors, the full protection they have hitherto lacked. One smooth turn of the key and the door is solidly locked top, bottom and center. Top and bottom rods are ½" hexagonal their full length, with ends containing hardened steel cores. No rattling or binding with these hefty rods, no more tripped burglar alarms due to looseness at head. The center bolt, which projects a full ¾" into the strike plate, is solid brass with hardened steel core. It measures ⅝" x 1⅛" in cross section, requiring only a neat and inconspicuous cutout.

2-POINT. The 2-point lock allows doors to lock at top and bottom without requiring unsightly strike holes in finished side walls.

1-POINT. Available also as a standard deadlock, with a full ¾" throw.

These locks are interchangeable, as lock pocket and case are the same size for all. Despite the many advantages which place this quality lock far ahead of any competing lock, it is available as standard equipment on Acme doors at no additional cost. Mail the coupon to Acme Metal Molding Company for further information and prices.

ALCOA ALUMINUM DISTRIBUTOR

SWEET'S 21/Ac

ACME METAL MOLDING COMPANY 1923 South Los Angeles Street, Los Angeles 11, California • Richmond 9-3331

acme

since 1907

Please send additional information and prices on the Jackson 3-Point lock.

Name _____

Company _____

Street _____

City _____ State _____

continued from page 327

sizes." The article, entitled "Downtown Tomorrow," appeared in the December 1959 issue of the magazine.

San Francisco to Restore Coit Tower Murals

The murals in San Francisco's Coit Tower, a tall, fluted monument at the top of Telegraph Hill, will be restored by as many of the 20 original artists as can be gathered together under the direction of Bay Area artist Dorothy Cravath. The brightly-colored frescoes, showing the strong influence of Diego Rivera, were painted as a government project in 1934 but have suffered considerably at the hands of vandals.

Public access to the murals was blocked two years ago after hundreds of persons had scratched them with initials, names, dates, and other forms of defacement until portions were almost completely obliterated. Although most of the paintings are concerned with the California scene and have no political significance, some parts reflect the depression times in which the murals were painted. Such scenes as "Das Kapital" being taken from a library shelf and the "Daily Worker, and "New Masses" on a newsstand have been heavily scarred. After the restoration iron railings will be installed to protect the walls, and the public will be taken on guided tours.

Many of the artists who worked on the project have died or moved from the Bay Area, but among those who will be available to restore their own work are Victor Arnautoff, Jose Moya del Pino, Edith Hamlin, Ralph Chesse, Gordon Langdon, Malette Dean and Otis Oldfield. Comments by the artists indicated they thought the murals were worth restoring. In general, they agreed that the work is "artistically uneven but of historic value."



SMOOT-HOLMAN "WILSHIRE"

2′x 4′ LUMINAIRE

1. Choice of 8 different diffusers to meet specific lighting needs.
2. Easy and fast to install . . . 4 "jacks" flip outward to support fixture on wood or metal furring.
3. Leveling screws adjusted from below. No above-the-fixture work necessary after service lines are in.
4. Ten mounting styles, tailored to fit various types of ceilings, save man-hours and money.

For the Architect — clean, flush mounted . . . adaptable to various ceilings . . . versatility allows complete freedom of design.

For the Engineer — Dependable lighting performance and fixture construction.

For the Electrical Contractor — Housing shipped complete, ready for easy one-man installation.

For the User-Owner — Years of trouble-free service with a minimum of maintenance expense.

Also available as "BEVERLY" 1′x 4′model

Write for detailed information to

SMOOT-HOLMAN COMPANY

Inglewood, California

INGLEWOOD'S LIGHTING TODAY!

Land Developments in Southern California

Two large land developments—one on the ocean, the other in the desert—are being formed in southern California. Just south of Laguna, Calif., the Laguna Niguel Corporation, headed by Gerald W. Blakely of the Boston realty firm Cabot, Cabot & Forbes, is planning a complete new community on 7000 acres of land. The plan covers water supplies, sewers, roads, golf courses, commercial centers, and industrial sites. The first homesites are to be put on the market next spring.

Inland, in the desert between Palm Springs and Indio, directors of the 600-acre Silver Spur Ranch in Palm Desert are planning expansion of community facilities to serve residents of the luxury ranch-home resort.

Creativity Needs Fostering

Is technological advancement deterred by suppressing creativity? And is it aided and abetted when creativity is stimulated?

A panel of engineers and professors at the fifty-second annual convention of the American Institute of Chemical Engineers agreed that there is a strong relationship between creativity and advancement in any field. Their particular concern was technology.

To provide an opportunity for this activity to take place, a panel of engi-

continued on page 32-28

economy
utility
beauty...

Fluor-Summerbell laminated wood beams simplified building the Hilltop High School, Chula Vista, California

Low cost school construction demands simplification in both design and construction. Chula Vista's new Hilltop High School was economical to build through the use of Fluor-Summerbell glued laminated beams. The uniformity of these strong, fire resistant structural members permitted the architect to use the money-saving modular system of design.

Construction economy came from the speed and ease of erecting these inexpensive wood beams. As they could be quickly set up on posts, the contractor had full freedom of movement . . . without any obstructions . . . to efficiently complete floors, walls, interiors and service lines. For more information on how Fluor-Summerbell Roof Structures contribute to school construction economy write to:

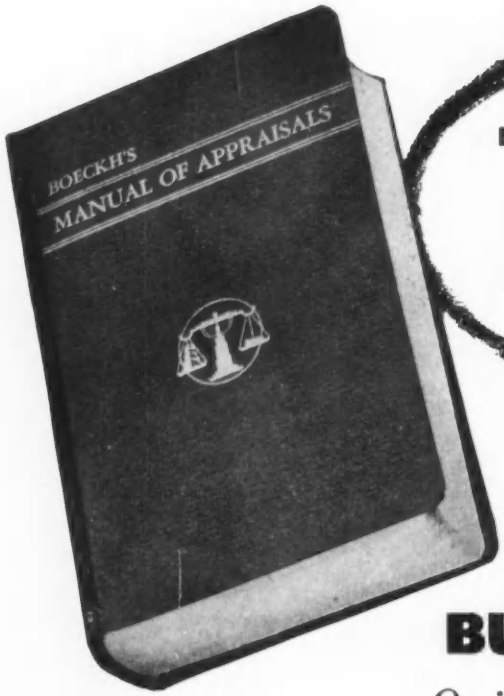


Architect:
Kistner, Curtis & Foster, San Diego, California
Contractor:
I. C. Curry Inc., San Diego, California
Owner:
Sweetwater Union High School District

Summerbell
ROOF STRUCTURES

Fluor
PRODUCTS COMPANY
a division of The FLUOR CORPORATION, Ltd.

GENERAL OFFICES: SANTA ROSA, CALIFORNIA. Write Box 1267
Representatives throughout the United States



FIFTH EDITION—*Just Published*

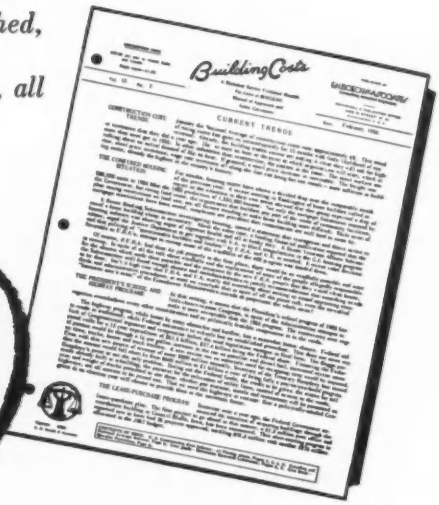
BOECKH'S MANUAL OF APPRAISALS

If advance cost planning is a part of your architectural problem, then this book and its supplement service *"Building Costs"* should be part of your "Kit of Tools." *Here is a service program that has been helping architects and builders develop costs of proposed projects for more than a quarter of a century.*

YOU CAN FIGURE BUILDING COSTS

Quickly and Accurately

For laymen or experts, the most comprehensive and quick method yet published, over 100,000 individual unit costs, more than 300 buildings with hundreds of variations, all easily convertible to local conditions through "Building Costs!"



BUILDING COSTS

A comprehensive monthly supplementary service giving you up to the minute news and analysis of market conditions, plus the latest cost indexes for the major metropolitan areas of America and Canada to convert the estimating *Manual* to local cost conditions.

SEND TODAY FOR BROCHURE TO

E. H. BOECKH & ASSOCIATES
Consulting Valuation Engineers
1406 M Street, N. W.
Washington 5. D. C.

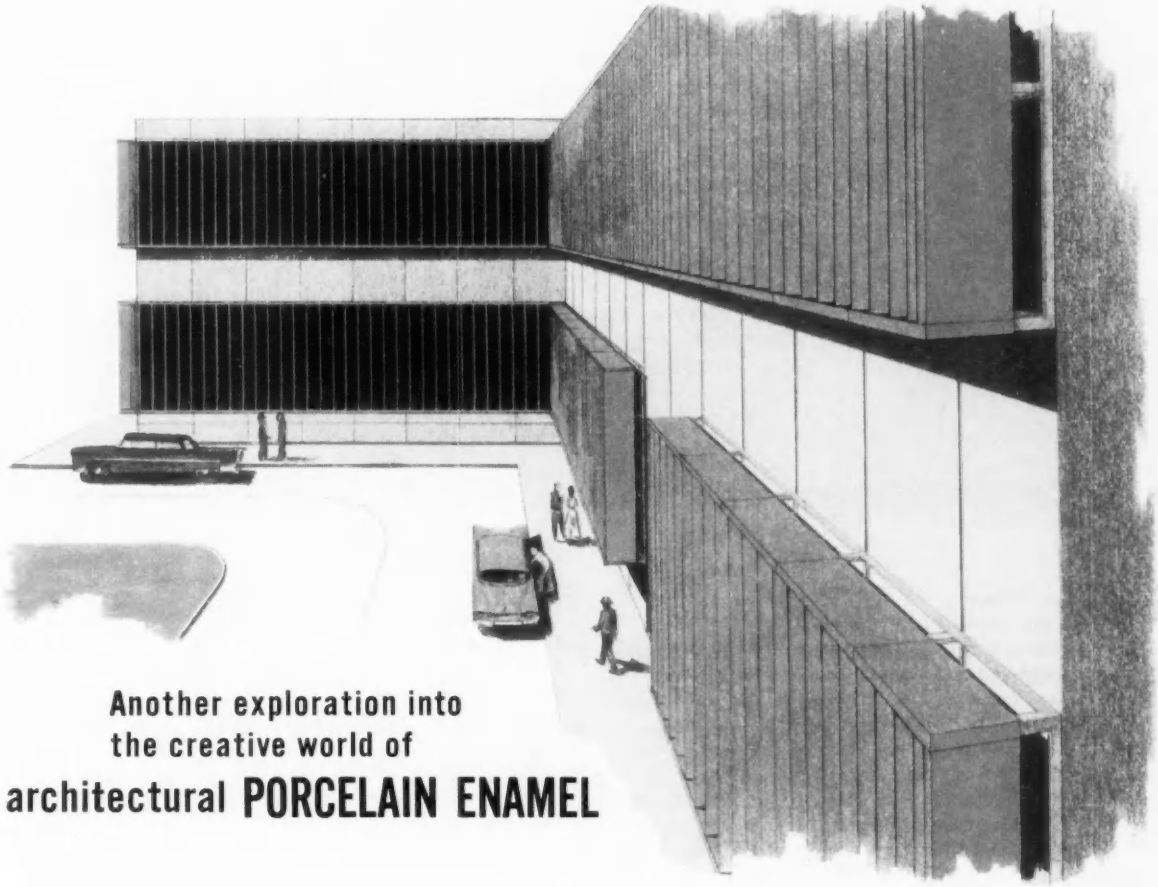
Please send me full descriptive literature on your estimating and cost planning services.

NAME_____

FIRM NAME_____

STREET_____

CITY_____ ZONE_____ STATE_____



Another exploration into
the creative world of
architectural **PORCELAIN ENAMEL**

SUN SHADES

PORCELAIN ENAMEL ON METAL IS IDEAL FOR:

spandrels • murals • curtain walls • remodeling • church spires • veneer • mullion covers louvers • canopy facia • wainscoting • letters • columns • sun shades • coping • tower facing

Shades of colorful porcelain enamel turn the sun's burning rays—to *your* advantage! Rich gleaming surfaces remain color-true for a lifetime, rain-wash sparkling clean! Whatever your color, whatever your finish—*style* is your dividend when you design with versatile Architectural Porcelain Enamel! But sun shades are only one of the hundreds of porcelain enamel possibilities. Let us tell you more about this *logical* medium. Write today for detailed information and copies of current Recommended Standards and General Specifications.

TIMELESS BEAUTY
WPEC
PORCELAIN ENAMEL

ARCHITECTURAL DIVISION
WESTERN PORCELAIN ENAMEL COUNCIL
P.O. BOX 5186 • EAST PASADENA STATION • PASADENA 8, CALIFORNIA
3770 PIEDMONT AVENUE • OAKLAND 11, CALIFORNIA

A.I.A. FILE No. 15-H-2

continued from 32-24

neers and professors agreed, it is possible to manipulate the necessary environment. The mind needs to be stimulated and left flexible and free to pursue an important hunch or intuition, in order to develop new products and new theories. New insights come, they said, "When people working on a problem are in a state of 'imaginative, muddled suspense'," and are excited and, at times, controversial as they grope for new ideas.

Harcourt G. Vernon, director of the du Pont Corporation Engineering Research Laboratory, pointed out that by "removing all sources of satisfaction in work accomplished," destroying "human dignity," creating an atmosphere of confusion by setting objectives and then not letting the personnel work towards these objectives, and finally, by "creating an atmosphere of active turmoil" by making and then rescinding assignments, employers often throttle imagination and creativity.

Revolutionary Chair
May Be in the Making

The perfect chair may be in the process of being developed. Or so its designer, Dr. Laurence Morehouse, professor of physical education at UCLA and head of the University's Human Performance Laboratory, hopes.

Not yet a decorator's dream, it looks so far much like a standard office swivel arm chair, but underneath its divided seat—of metal covered with a cushioning material—is a special arrangement of springs and universal joints that supplies sufficient rigidity to support the body and at the same time gives flexibility to the seat to move with the body where necessary.

Dr. Morehouse's research has convinced him that physical condition and performance are closely connected with the individual's position while seated. Improper seating over long periods can result in serious illness or, as happened in British bomb shelters during World War II, even in death. With his new chair, Dr. Morehouse finds that fluids do not pool in the lower extremities and oxygen is not cut off to certain muscles—two causes of discomfort and, to persons with a tendency to thrombosis, danger.

Tour de Decors—1960

"San Francisco Counterpoint" is the theme for the third biennial *Tour de Decors* of the San Francisco Museum of Art Women's Board. This year's tour, May 4-8, will feature museum exhibitions and showroom displays of outstanding interior designs, which are distinctively San Francisco in character.

San Francisco architect John Lord King designed the special setting for the "Promenade of Rooms," which will have as one of its main features a cyclical lighting system to show each model room alternately in a daylight and a night time setting. The landscaping surrounding the Promenade in the Museum's South Gallery was designed by landscape architect Lawrence Halprin, who also designed the landscaped town plaza for the Museum's rotunda, where fashions will be shown daily during the Tour.

Calendar of Western Events

- To MAY 15: Golden Gateway Redevelopment Project exhibits; displays of proposed plans for redevelopment of San Francisco's waterfront and market produce areas. San Francisco Museum of Art, Civic Center and San Francisco Redevelopment Agency, 525 Golden Gate Avenue, San Francisco, Calif.
- To MAY 15: Comprehensive exhibition of Le Corbusier's work (first in U.S.) including photographs, photo-murals and sketches from Le Corbusier's notebook. San Francisco Museum of Art, Civic Center
- To MAY 15: "Sculpture in Our Time": exhibit of about 100 selections from the work of Matisse, Rodin, Degas, de Rivera and Henry Moore; Los Angeles County Museum, Exposition Park, Los Angeles, Calif.
- To MAY 21: "Lost Cities": exhibit of art objects, photographs, murals, and floor plans from 17 ancient sites, 3000 B. C. to 1900 A. D.; Denver Museum of Art, Denver, Colo.
- JUNE 14-16: Pacific Home Builders Association convention; Sheraton Palace Hotel, San Francisco, Calif.
- JUNE 9-19: International Fair of San Francisco, Cow Palace, San Francisco, Calif.
- JUNE 19-22: National Parking Association convention; Jack Tar and St. Francis Hotels, San Francisco, Calif.
- Beginning JUNE 24: Exhibition of Japanese art, including a collection of 55 vessels and figures, 5000 B. C. to the seventh century A. D., excavated from the central and northeast regions of Honshu, the main island of Japan; Seattle Art Museum, Seattle, Wash.

WESTERN SECTION

Index To Advertising

Manufacturers' Pre-Filed Catalogs of the firms listed below are available in the 1959 Sweet's Catalog Files as follows:

a Architectural File (green)
ic Industrial Construction (blue)
le Light Construction File (yellow)

A Acme Metal Molding Co. 32-22-23
Boeckh, E. H. & Associates 32-26
Columbia-Geneva Steel Div. ..... 32-9 to 32-14
Coyne Tempered Glass Co. 32-20
Day & Night Mfg. Co. 32-16-17
Fluor Products Co. 32-25
Gladding, McBean & Co. 32-19
Smoot-Holman Co. 32-24
United States Steel ..... 32-9 to 32-14
Western Porcelain Enamel Council .. 32-27
Index 32-28

Western advertising offices: LOS ANGELES, Wettstein, Nowell & Johnson, Inc., 672 S. Lafayette Park Pl.; PORTLAND, Wettstein, Nowell & Johnson, Inc., 921 S. W. Washington St.; SAN FRANCISCO, Wettstein, Nowell & Johnson, Inc., Howard Bldg., 355 Stockton St.

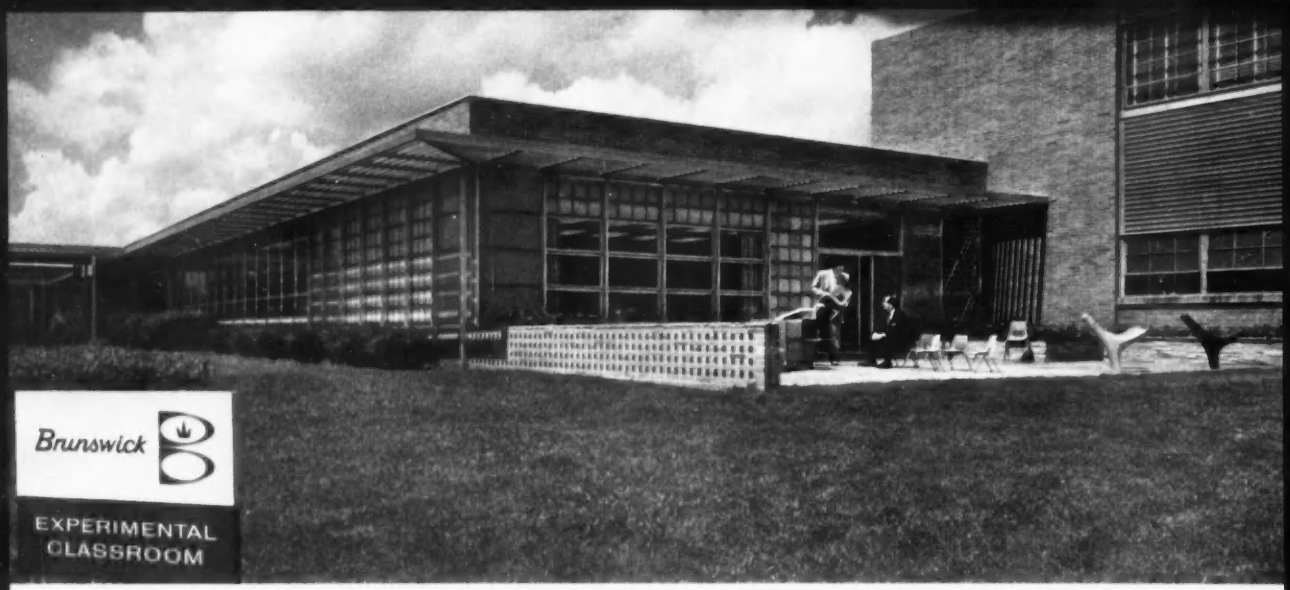
Brunswick

NOW...

THE UNQUALIFIED LEADER

in serving the needs of american education





IT'S YOURS TO USE . . . the Brunswick Experimental Classroom . . . integral part of the new Brunswick Kalamazoo Plant

The first completely equipped classroom devoted exclusively to the study of the relationship between the learning process and physical environment. Educators are invited to use this unique facility for seminars, research, room utilization studies. It may also be used to pre-plan and see your rooms completely furnished prior to the purchase of equipment.
Reserve the Brunswick Experimental Classroom early to insure its availability.



Planning a new school? Remodeling an older one?

Call On The Man From Brunswick

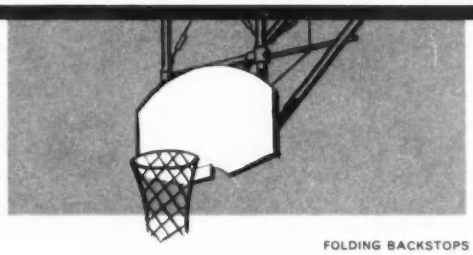
a good man to have on your Building Team . . .

He's a good man to have around, all right! Especially in those early planning stages when his experience-tested suggestions on room lay-outs, equipment utilization, budgeting can well result in an improved schoolhouse—from both the functional and investment standpoint.

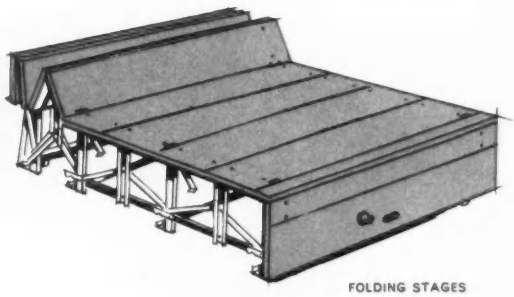
Your Brunswick representative is eager to be of help . . . to give his time and experience to your Building Team. Call him!

MODUWALL



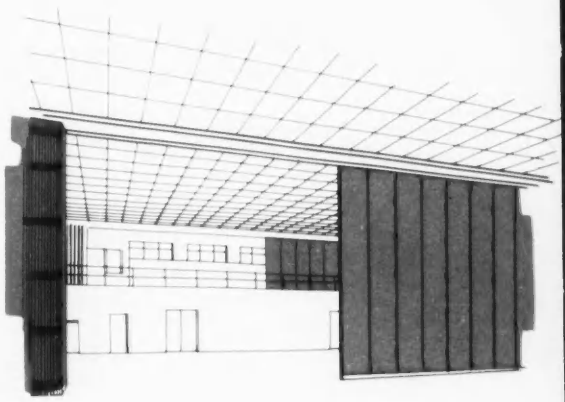


FOLDING BACKSTOPS



FOLDING STAGES





FOLDING PARTITIONS

THE CONTEMPORARY SERIES

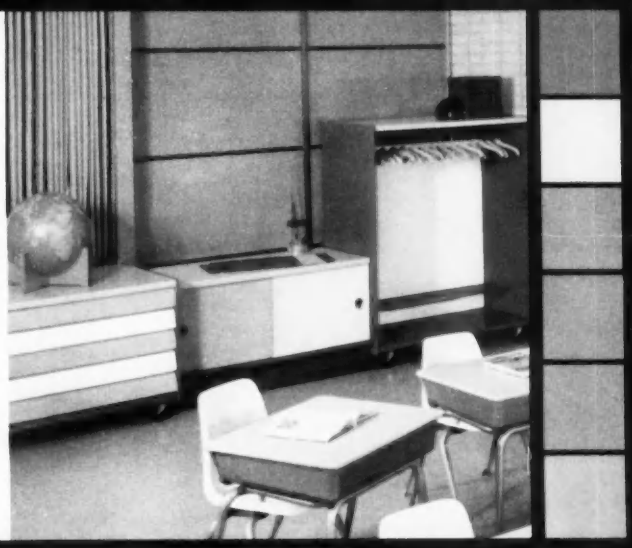
INVEST IN

Brunswick

SCHOOL EQUIPMENT OF
ADVANCED DESIGN

designed... manufactured...
installed...and serviced for
better learning...lasting value

IN THE OFFICE



MOVABLE CABINETS





FOLDING GYM SEATING

NOW... UNEXCELLED SERVICE

in helping you create a more productive environment for learning

YOU ARE INVITED
to avail yourself of these proved-in-use services. Invaluable in helping you plan and equip your new or remodeled schoolrooms. Architects and teacher-training faculties will also find them exceptionally useful.

☐ **FUNCTIONAL COLOR FOR THE CLASSROOM**

Fact filled, full color 21 page booklet demonstrating the architectural and educational effects of color on the learning-teaching process. Scores of recommendations on how to use color significantly. Dr. Paul W. Seagers and G. Harold Hart, A.S.I.D.

☐ **8:30 EVERY MORNING**

15-minute full color film showing advances in classroom furniture design and how it enhances today's teaching objectives and programs. For Administrators, Teacher Training Courses.

☐ **CLASSROOM LAYOUT SERVICE**

Counsel on your specific room requirements and equipment placement with a staff of trained educator-designers.

☐ **CLASSROOM RESEARCH FACILITY**

The scientific relationship between physical facilities and the learning process are under continuous study at the special Brunswick Experimental Classroom ... open to all on a scheduled basis.

☐ **GYMNASIUM "IDEA" BOOK**

Provocative booklet illustrates latest in gymnasium designs and function. Shows how a functional gymnasium provides greatest flexibility and space utilization.

☐ **ALL THIS AND BASKETBALL,**

15-minute color film demonstrating scope of teaching and economy values of modern, flexible functional gym. Excellent for gym planners, teacher training courses.

☐ **GYMNASIUM PLANNING SERVICE**

For school boards and architects now engaged in planning gymnasiums.

☐ **TODAY'S SCHOOLS**

Monthly 4-page newsletter-digest of highlights in world of education. Directed specifically to Administrators and School Architects.

☐ **CABINET AND MODUWALL LAYOUT MANUALS**

Two provocative booklets showing a variety of room layouts utilizing both Cabinets and Moduwall to fit a number of educational functions.

☐ **BRUNSWICK ALL-PRODUCT CATALOG**

Full color photos and features of new Brunswick Contemporary Series, Traditional Series, Movable Cabinets, Moduwall, Gymnasium Equipment.

USE THIS PAGE TO REQUEST INFORMATION OR MATERIALS

The Brunswick-Balke-Collender Company
623 S. Wabash Ave. · Chicago 5, Ill.

Name_____

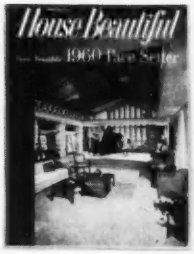
Title_____

School/Firm_____

Address_____

City_____ Zone____ State_____

FF-3-45



This Pace Setter Home for 1960 was designed and decorated by the editors of House Beautiful as "A dwelling place that is a complete work of art . . . to symbolize those hopes, aspirations, and human emotions that are summed up in the single word; home." They point out, "A stone tower, topped with a clear plastic 'Skydome', instead of a roof, is the moodsetter for this house . . . This is something new in shelter. And until the clear plastic Skydome came into being as a commercial reality, such a space would not have been feasible. Here is real exploitation of a 20th-century tool!"



PACE SETTER FOR 1960...
DAYLIGHTING BY WASCO





Wasco Skydomes — in both standard and special shapes — figure repeatedly in the Pace Setter's most striking effects. The "light tower" entrance hall uses a standard 20" x 52" Skydome. The kitchen (at left), the indoor swimming pool, bathrooms, and corridors use a variety of custom formats. This achievement shows how Wasco designs Daylighting products to fit the ever-changing needs of creative architecture. Skydomes are truly a "20th Century Tool", available in a variety of types and sizes. See Sweet's File 20a/Wa.

GOOD DAYLIGHTING DESIGN STARTS WITH

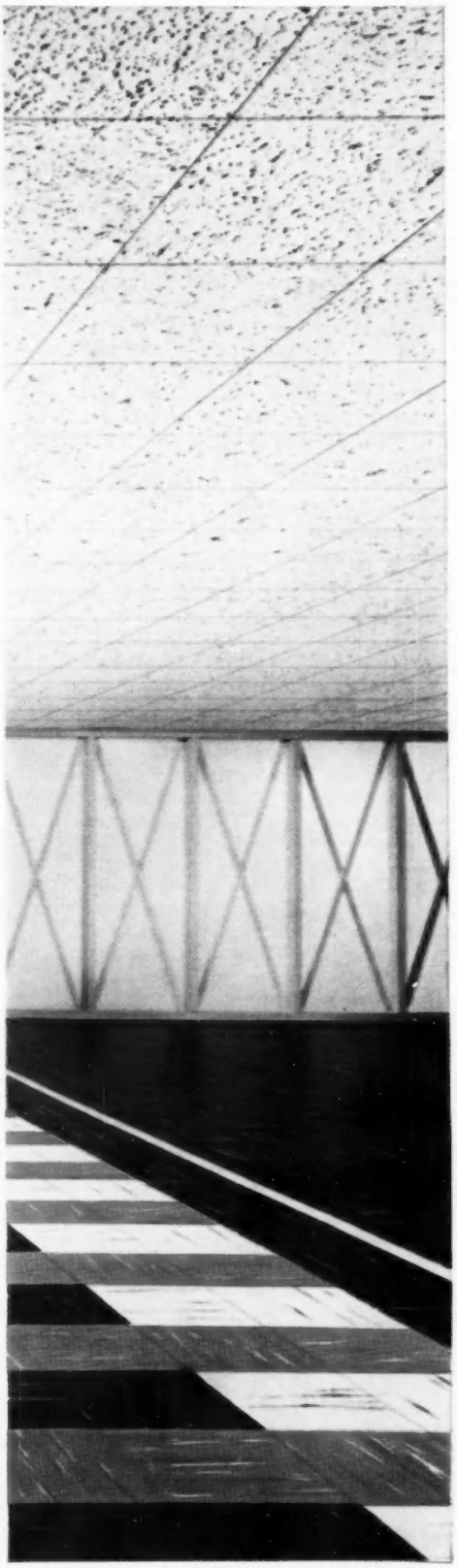
WASCO
SKYDOMES

WASCO PRODUCTS, 5 BAY STATE RD., CAMBRIDGE 38, MASS.
IN CANADA: WASCO PRODUCTS (CANADA) LTD., TORONTO, ONT.

J-M PERMACOUSTIC, USED HERE, IS A FISSURED TILE A FOOT SQUARE MADE OF ALL MINERAL, NON-COMBUSTIBLE MATERIALS. HIGH STYLE AT A SENSIBLE COST.



J-M TERRAFLEX TILE COLORS USED HERE ARE MALLARD GREEN, PENGUIN BLACK AND HERON WHITE—THREE OF THE MANY STRIKING COLORS AND STYLES AVAILABLE.



Permacoustic and Terraflex are registered trademarks of the Johns-Manville Corporation

CUT OVERHEAD
OVERHEAD

WITH A JOHNS-MANVILLE ACOUSTICAL CEILING. Designed and installed using any of the wide line of units available, a J-M Acoustical Ceiling offers architects the opportunity to combine style and economy with maximum employee efficiency. The big ceiling area shown here is Johns-Manville Permacoustic—a non-combustible fissured unit one foot square. J-M ceilings are adaptable for new designs or re-designs. For full details call your nearest J-M office, or write Johns-Manville, Box 158, Dept. AF-4, 22 East 40th Street, New York City 16. Ask your secretary to get you the new J-M Acoustical Book AC 35A . . . today.

CUT OVERHEAD
UNDERFOOT

WITH J-M TERRAFLEX VINYL-ASBESTOS TILE, you'll find it easy to create a "custom look" beauty. And your clients get a plus value from Terraflex Tile, too. Compared with the next-best type resilient flooring, Terraflex reduces maintenance costs as much as 50% . . . thanks to built-in resistance to greases, oils, alkaline moisture and tracked-in grit and dirt. You can specify Terraflex Tile for use above or below grade—and be sure it will keep its original color beauty. Ask your J-M Flooring Contractor for further details. You'll find his name in the Yellow Pages under "Flooring." Or write Johns-Manville, Box 158, Dept. AF-4, N.Y. 16, N.Y.

J-M 7★

7-Star Value Products

JOHNS-MANVILLE JM PRODUCTS

Double Recreation Areas, Wirth Advises Planners

Director Conrad K. Wirth of the National Park Service, in a recent discussion of social pressures stemming from the desire of people to escape from suburbia, said that towns, cities and states need to double their present recreational acreages immediately if future needs are to be met.

A portion of his remarks formed an interesting commentary on land planning problems. He said:

"In the past, some planners have recommended 10 acres of park and playground for every 1000 people in a city; more recently they have suggested that this should be increased to possibly 15 acres, with an additional 10 acres per 1000 for outlying metropolitan parks and beaches; or a total of say 25 acres serving every 1000 people in a metropolitan area. Up to now, the planners have not had a generally accepted standard for desirable amounts of space for recreation beyond the metropolitan area.

"But what about this metropolitan standard? The majority of metropolitan areas in the United States have not approached this standard and not enough is actually being accomplished to come to anywhere near this standard as urban development spreads out over the country.

"Are these standards too high? As I said, it depends on the values we place upon the importance of open space and the preservation of forests and streams and all that makes up our country.

"Recently I noted that in Paris, and the area immediately surrounding it, there is no less than 385,000 acres of publicly owned and privately owned park lands open to all the people. The population of the Paris metropolitan area in 1955 was 4,951,000. This means that they have 77 acres of park land per 1000 population. It makes the 25-acre standard seem a little low by comparison, to say the least.

"I am sure that the open space that has been maintained in and around Paris is one of the important reasons why people love Paris."

Towns, cities and states need to acquire recreation land, the parks director said. He estimated that in the eastern half of the country several times the present acreage are needed and local communities and states should, in his opinion, acquire most of it. He went so far as to say that a major portion of the forested Applachian range should eventually be managed primarily for recreation, assuring that these mountains would continue to serve the equally important purpose of watershed protection.

Urban Sections Called Vital To National Highway Program

The nation's beleagered highway construction program continues to spark new criticisms as it undergoes study at various government levels. Among the latest is a booklet released by the American Municipal Association and the Port of New York Authority. This is the text of an address by S. Sloan Colt, chairman of the Authority, and a former member of the President's advisory committee on a national highway program.

Expressing concern over reports that cost of the big interstate system program may be lowered through deemphasis of urban sections, it says this:

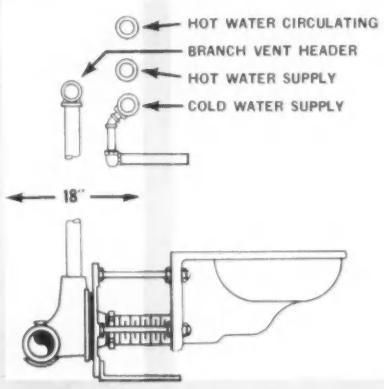
"Any new highways built without adequate access to the traffic-gener-

continued on page 44



THE ANSWER:

Leave **at least** the space shown at right for the many trades using the pipe chase — plumbing, heating, airconditioning, ventilating. A little extra space means a lot of extra savings — in time, labor, materials, maintenance.



DON'T be space wise and dollars foolish. Write for **Wade Carrier-Fittings** Dimensional Standards Charts.

WADE

WADE MANUFACTURING CO.—ELGIN, ILLINOIS



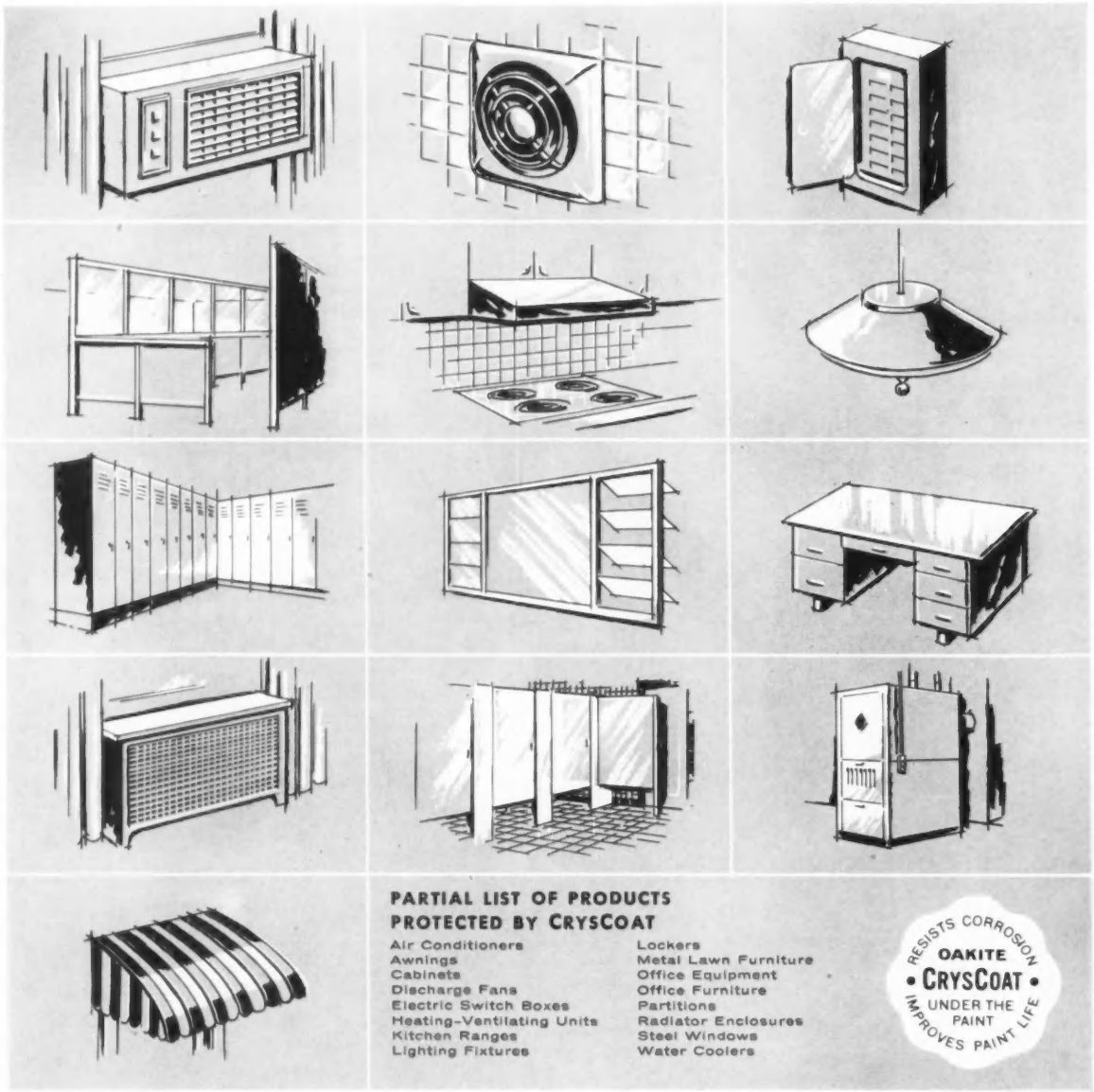
MARS vs MARS — You need neither lawyer nor judge. Let your own preference decide in favor of one MARS over another. For whether you pick one of the wood-cased Lumographs or one of the Technicos you'll be using the very finest.

Among the famous imported Mars drafting products are: the Mars-Technico push-button lead holders (with adjustable degree indicator*, with specific degree imprint*, the economy model*); Mars-Lumograph drawing leads, 18 degrees, EXB to 9H; Mars-Lumograph drawing pencils*, 19 degrees, EXEXB to 9H; Mars-Duralar pencils and leads for drafting on Mylar®-base drafting film —5 special degrees, K1 to K5; Mars-Duralar Technicos with adjustable Duralar degree indicator; Mars-Lumochrom colored drawing pencils, 24 shades. Also: Mars Pocket-Technico for field use; Mars pencil and lead sharpeners; Mars Non-Print pencils and leads; Mars-Duralar erasers. Mars products are available at better engineering and drafting material suppliers everywhere.

® T.M. for duPONT's Polyester film. *Shown.

the pencil that's as good as it looks **MARS**

J.S. STAEDTLER, INC.
HACKENSACK, NEW JERSEY



PARTIAL LIST OF PRODUCTS PROTECTED BY CRYSCOAT

Air Conditioners
Awnings
Cabinets
Discharge Fans
Electric Switch Boxes
Heating-Ventilating Units
Kitchen Ranges
Lighting Fixtures
Lockers
Metal Lawn Furniture
Office Equipment
Office Furniture
Partitions
Radiator Enclosures
Steel Windows
Water Coolers

RESISTS CORROSION • OAKITE • CRYSCOAT • UNDER THE PAINT IMPROVES PAINT LIFE

In your plans it pays to specify products protected under the paint by CrysCoat®

It has been proved year after year on many different architectural products that nothing surpasses Oakite CrysCoat for bonding paint to metal . . . for blocking creeping rust and preventing paint from peeling or blistering at accidental nicks and scratches . . . for preserving the beauty of the finish.

When an architect specifies that steel architectural products be CrysCoated, he is assuring building owners lasting satisfaction with their investment.

For information about CrysCoated products, write Oakite Products, Inc., 83 Rector Street, New York 6, N. Y.

CrysCoat paint-bonding treatment makes architectural products look better . . . last longer

OAKITE

over 50 Est. 1909 years' leadership in industrial cleaning

SCIENCE



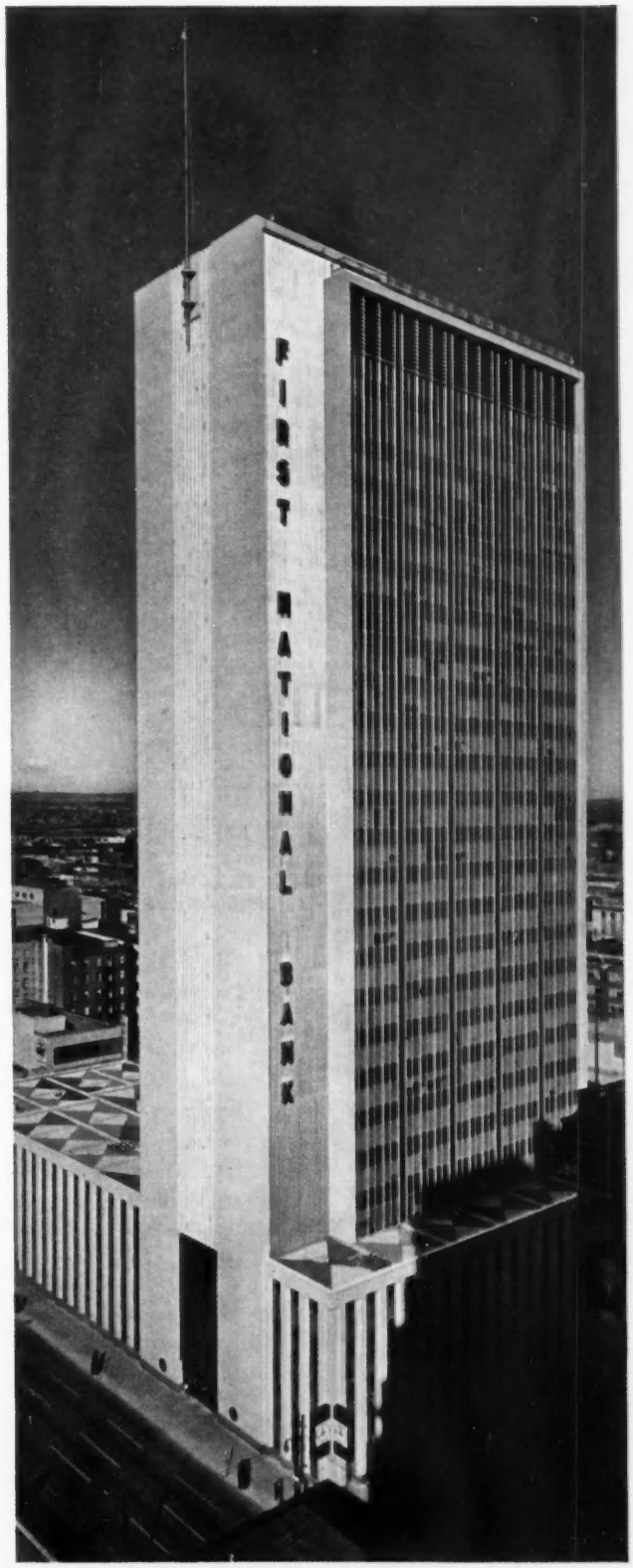
Precast concrete panels face Denver's tallest building

Denver's First National Bank Building is faced with over 100,000 square feet of precast white concrete panels. All panels were made with ATLAS WHITE portland cement and Georgia white marble aggregate. Ground to a smooth finish to expose the aggregate, the panels provide a beautiful, weathertight curtain wall that requires little or no maintenance. Positioned by overhead cranes, individual panels were bolted to the framework in record time. For example, 2 masons anchored the 900-lb. flat facing panels at the rate of one every 2 minutes. This kind of installation economy and the design versatility of precast concrete panels are becoming important considerations in constructing today's buildings. Precast concrete units can be specified in any shape, size, color or texture. For specific information on the use of ATLAS WHITE cement in architectural concrete, write Universal Atlas Cement, 100 Park Avenue, New York 17, N. Y.

"USS" and "Atlas" are registered trademarks WF-48

Universal Atlas Cement
Division of
United States Steel

OFFICES: Albany • Birmingham • Boston • Chicago • Dayton • Kansas City • Milwaukee • Minneapolis • New York • Philadelphia • Pittsburgh • St. Louis • Waco

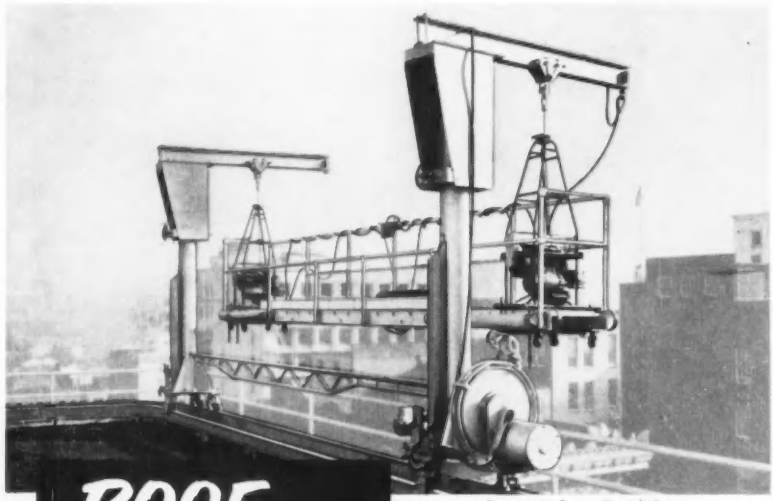


FIRST NATIONAL BANK BUILDING, DENVER, COLORADO—Architect: Raymond Harry Ervin & Assoc., Denver; **Engineer:** Phillips-Carter-Osborn, Inc. and Rhuel A. Andersen; **Gen'l Contractor:** Mead & Mount Construction Co., Denver; **Concrete Panels:** Otto Buehner & Co., Salt Lake City.

ating urban areas would be useless and an economic waste. Indeed, any such plan would be compounding the expensive, hazardous bottlenecks which the President specifically aimed at eliminating in formulating his highway program."

The publication called attention to the fact that the nation is becoming increasingly an urban nation, and that in these city areas the most serious problems of traffic congestion are developing.

During 1959, all units of government invested approximately $6.8 billion in highway capital expenditures of all types. This was an increase of some $600 million over the 1958 totals. Forecast for 1960—a decline in outlays to about $6.7 billion.



ROOF RAILER

CUTS MAINTENANCE COSTS

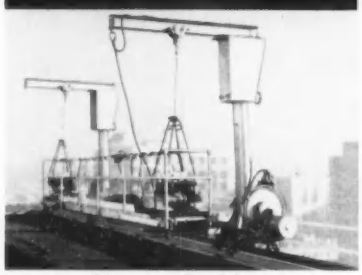
Operating Position

Permanent Installation.
Cuts Man-days from Yearly Building Maintenance.

Manual operated Roof Railer can be moved to any roof position and swung into operating area by one man.

Albina Hi-Climbers (power staging) used in conjunction with Roof Railer. Daily work preparation time is cut to the minimum. Swing stage can be moved and lowered to desired work area by one man in minutes.

Electric horizontal power shown in illustrations.



Storage Position

WRITE FACTORY FOR FULL DETAILS

ALBINA ENGINE & MACHINE WORKS

2100 N. Albina Ave., Portland, Oregon

1959-1975 Need Estimated for Sewer Pipe and Fittings

One indication of the tremendous construction potential facing the nation between now and 1975 occurs in the Commerce Department's translation of present estimates into needs for sewer pipe and fittings.

In a new report in its series aimed at helping manufacturers plan for future demands, the Water and Sewerage Industry and Utilities Division of the Commerce Business and Defense Services Administration, placed at two billion ft the quantity of sewer pipe and fittings that will be required for new construction, maintenance and repair between this year of 1959 and 1975. This vast amount will be needed, it said, to provide adequate public sewerage facilities during those years.

A study by the Division covered the future requirements of sewerpipe and fittings for public utilities, industrial, military and other Federal systems. Past trends were reviewed. Estimated requirements did not include sewer pipe for transporting industrial fluids other than liquid wastes; house connections to street mains; culverts, drainage pipe, and storm sewers included in street paving construction for which statistics are not available.

The report covered three principal types of pipe for sanitary and storm sewerage collection and disposal—vitrified clay, concrete, and asbestos-cement. For correlation with end use the pipe requirements were grouped into three sizes: eight-in. to 12-in., 15-in. to 24-in., and over 24-in.

The Division emphasized the greater-than-average need for sewerage facilities and improvements created during World War II when construction was minimized. The projections were based on adequate maintenance and repair, needed system improvements, and construction of new facilities to keep pace with normal growth of sewerage services to satisfy adequately the nation's needs by the end of 1975, it was explained.

(Report title: Sewerage Utilities, Sewer Pipe Requirements for Mains, 1920-1958-1975. The document is for sale at the U.S. Government printing office, Washington, D. C., at five cents per copy.)

THE ADVANTAGES OF KOOL KOIL COME AS TIME GOES ON....



OPERATES UP TO 20° C COOLER for extra years of trouble-free service.



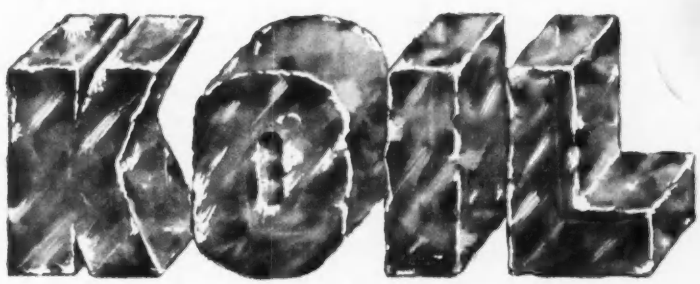
GIVES 15% MORE LIGHT OUTPUT for higher illumination levels.



ADVANCE Fluorescent Lamp Ballasts are built to last years and years operating under normal temperatures. The rigorous demands required of Fluorescent Lamp Ballasts today often result in ballasts operating at abnormal temperatures reducing ballast life by one-half for every 10°C heat rise over normal operating conditions.

To meet today's requirements, ADVANCE engineers, through more than 3 years' exhaustive research developed ADVANCE Kool Koil Fluorescent Lamp Ballasts. Tests in a standard 40° C Certified Ballast Manufacturers and Underwriters Laboratories' heat box proved KOOL KOIL Fluorescent Lamp Ballasts operated 16.5°C to 19.5°C cooler than other quality ballasts. Because they operate up to 20°C cooler, they give 3 to 4 times longer service . . . operate long after others have failed.

Insist on ADVANCE KOOL KOIL Fluorescent Lamp Ballasts for that extra protection now and the years of trouble-free service that will be yours as time goes on.



ADVANCE®

"The Heart of the Lighting Industry"®

World's Largest Exclusive Manufacturer of Fluorescent Lamp Ballasts

TRANSFORMER CO.

2950 NO. WESTERN AVE. CHICAGO 18, ILL. U.S.A.





"CERAMIC TILE...BEAUTIFUL DURABLE SOLUTION FOR LONG-RANGE ECONOMY"

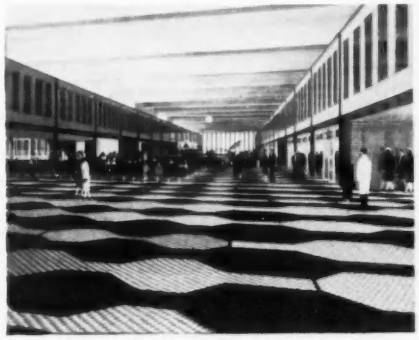
THORSHOV & CERNY, INC.

Thorshov & Cerny, noted Minneapolis firm of architects, designed this approach to a modern, high-traffic jet airport terminal. Spaciousness, appealing modern design and long-range economy via minimum maintenance requirements—all these elements were part of the plan.

A unique and original ceramic tile pattern was designed for the floor—a specification which contributes permanent beauty and guarantees long wear with minimum maintenance. Many of the vertical surfaces were designed with ceramic tile—always a prudent choice for any public area.

Practical experience shows that any private or public building gains in appearance, prestige and decreased maintenance costs when tile is used. Fireproof, durable ceramic tile comes in over 200 different colors, a wide range of sizes and an increasing variety of textures—giving the architect the greatest design freedom possible.

The Modern Style is



Design For A Modern Jet Airport Terminal

The many benefits of ceramic tile will make sense for both you and your clients in any residential, institutional or commercial project you undertake. See your local tile contractor for up-to-date information, including all the details on the new lower cost installation methods and the new dry-set portland cement mortar.

PARTICIPATING COMPANIES

American Encaustic Tiling Co., Inc.
Atlantic Tile Mfg. Co.
Aztec Ceramics, Inc.
Cambridge Tile Mfg. Co.
Carlyle Tile Co.
Continental Ceramics Corporation
General Tile Co.
Gladding, McBean & Co.
Hood Ceramic Corporation
Jackson Tile Mfg. Co.
Jordan Tile Mfg. Co.
Lone Star Ceramics Co.
Monarch Tile Mfg. Inc.
Mosaic Tile Co.
Murray Tile Co., Inc.
National Tile & Mfg. Co.
Olean Tile Co.
Oxford Tile Company
Pacific Tile and Porcelain Co.
Pomona Tile Mfg. Co.
Redondo Tile Company
Ridgeway Tile Co.
Robertson Mfg. Co.
Stylon Corp.
Stylon Southern Corp.
Summitville Tiles, Inc.
Texeramics, Inc.
Wenczel Tile Co.
Winburn Tile Mfg. Co.

TILE COUNCIL OF AMERICA, INC.
800 Second Avenue, New York 17, N. Y.;
Room 933, 727 West Seventh St., Los Angeles 14, Calif.;
Room 207, 5738 North Central Expressway, Dallas, Texas

CERAMIC tile

The Record Reports

continued from page 20

form, to give the full circle of his influence."

In discussing the site, the committee also suggested that this might affect the design, as the location seems to call for "a more reflective expression and a less dominant form than the Lincoln, Jefferson and Washington Monuments."

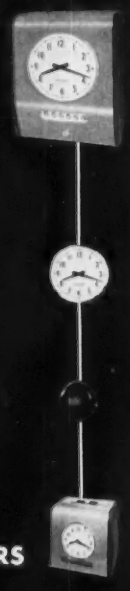
As for the mechanics of the competition, these are being handled in the way the advisory committee recommended. The competition will be held in two stages; winners of the first stage will each receive a $10,000 award, and will develop their entry for the second stage. The winner of this stage will receive a $50,000 award, and first consideration for the commission to design and supervise construction of the memorial. The only major change made by Congress in the committee's plan was to restrict entrance to residents of the United States, though the committee had recommended an international competition.

The Roosevelt Memorial Commission has appointed as the professional advisor of the competition Edmund N. Bacon, executive director of the Philadelphia City Planning Commission. The jury will be composed of: Mr. Belluschi as chairman; landscape architect Thomas D. Church; Bartlett Hayes Jr., director of the Addison Gallery of American Art at Phillips Academy; Joseph Hudnut, Professor of Architecture Emeritus at Harvard University; and Paul Rudolph, chairman of the Department of Architecture at Yale University.

Inquiries and requests for registration forms should be addressed to Mr. Edmund N. Bacon, Professional Advisor, Franklin Delano Roosevelt Memorial Competition, Room 108, Tariff Commission Building, Seventh and E Street, N.W., Washington 25, D. C.

Registrations will be accepted until May 16. The competition is open to all architects residing in the United States and to teams of landscape architects, sculptors, and painters, providing such teams also include an architect; all names of members contemplating such an association need not be recorded in the initial registration, although the architect's name must be.

ONE TIME...



CLOCKS

SIGNALS

RECORDERS

...THROUGHOUT YOUR PLANT WITH A

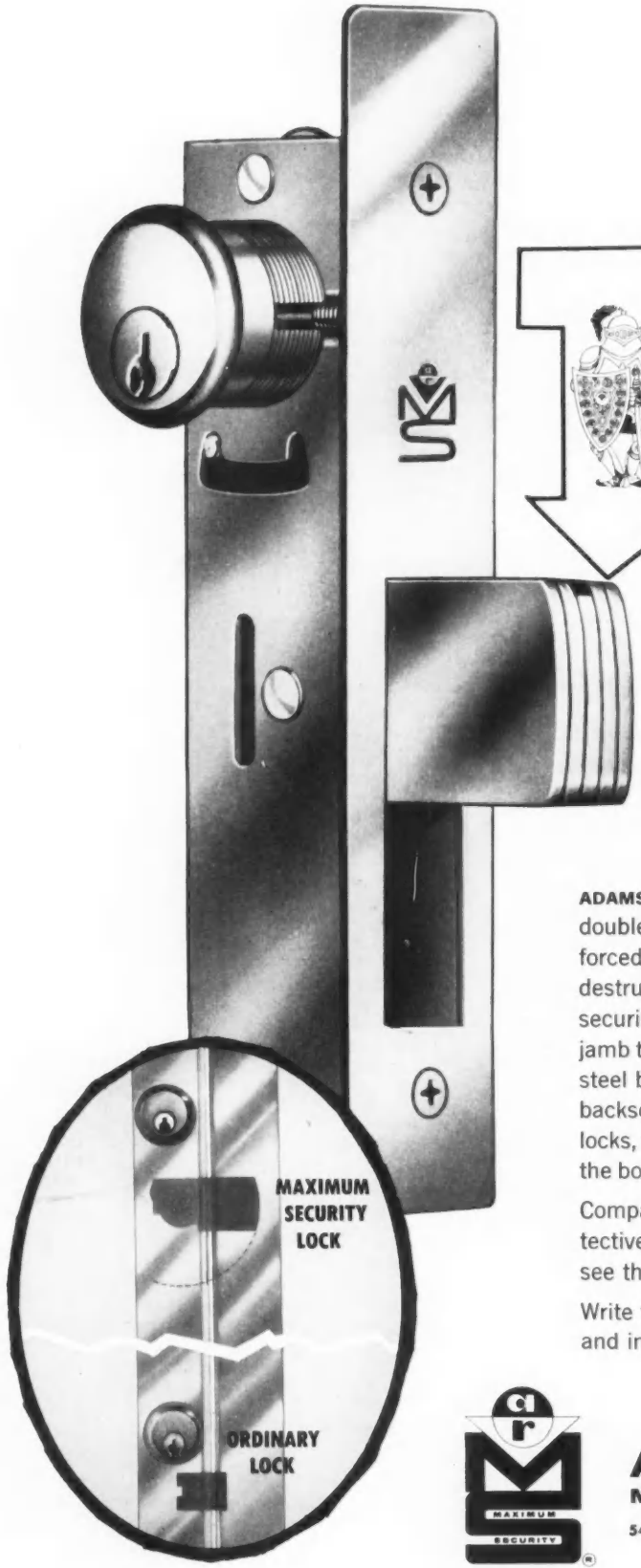
Cincinnati TIME SYSTEM

See the yellow pages for your local representative, or write for full information on how Cincinnati time equipment can solve your time problems.

ENGINEERING • SALES • SERVICE

THE Cincinnati TIME RECORDER CO.
1737 Central Ave.
Cincinnati 14, Ohio
SINCE 1896

IF IT'S ABOUT TIME...
CALL FOR CINCINNATI



THIS IS MAXIMUM SECURITY

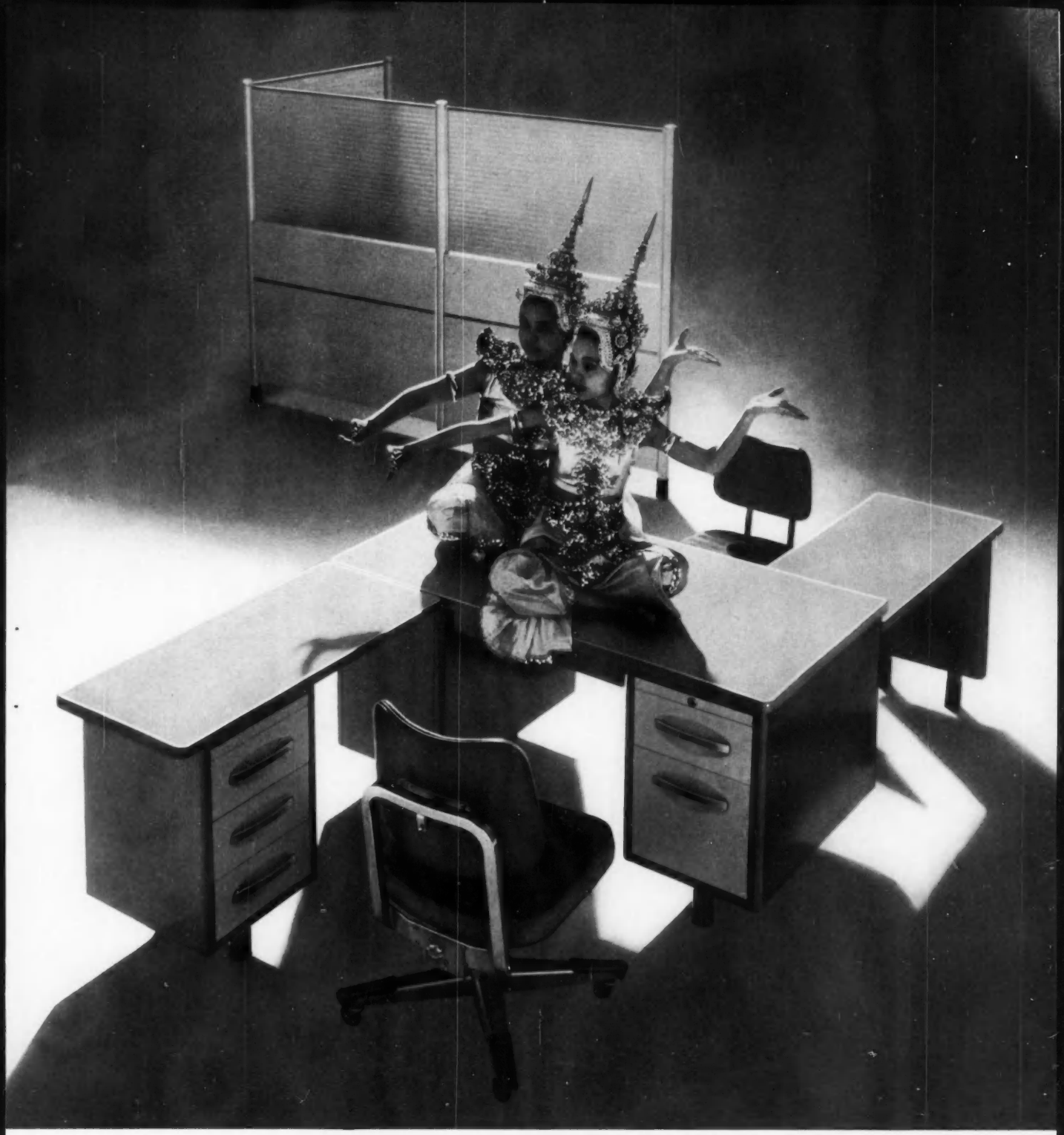
ADAMS-RITE's exclusive **MS** lock more than doubles security for narrow stile doors, making forced entry impossible without the complete destruction of the door channel. This double security is made possible by linking the stile and jamb together with a counterbalanced laminated steel bolt—measuring a full $1\frac{3}{8}''$ from a backset as short as $\frac{7}{8}''$; and unlike standard locks, the **MAXIMUM SECURITY** retains as much of the bolt within the locking stile as is projected.

Compare the Adams-Rite **MS** lock—with its protective long bolt—with ordinary locks and you'll see the double protection of **MAXIMUM SECURITY.**

Write today for complete specifications and information.

SEE OUR CATALOG IN SWEET'S OR WRITE FOR COPY

ADAMS-RITE
MANUFACTURING COMPANY
540 West Chevy Chase Drive, Glendale 4, California





Shown here: our #1209 secretarial posture model. Comfort enough to help one think—and work!

DOUBLE the action in any office space...

Only Royal gives you such flexibility, such completeness, such comfort!

Now! The makers of Royal chairs want you to meet their newest magic: Arnot modular furniture components and Partition-ettes®—designed and engineered to overcome every handicap that office space planning can offer. Arrange them—rearrange them—only greater efficiency can result! For the finishing touch—chairs by Royal, of course. Write today for more information showing the galaxy of styles, sizes and colors available. ROYAL METAL MANUFACTURING COMPANY, Dept. 12-E, One Park Avenue, N.Y. 16, N.Y. In Canada—Galt, Ontario.

Royal
OFFICE FURNITURE

SHOWROOMS: New York, Chicago, Los Angeles, San Francisco, Seattle, Galt, Ontario
LICENSEES: France, England, Australia, Venezuela • FACTORIES: Plainfield, Conn., Michigan City, Ind., Los Angeles, Cal., Warren, Pa., Jamestown, N.Y., Galt and Smiths Falls, Ontario

New steels are born at Armco

New Beauty



Classic new sturdy wall panel—the Armco Sculptured STEELOX® Panel—gives walls a dramatic, shadow effect.

Insulated Panels



Steel, snap-in insulated panels for interior finishing are now available for all models of the Armco Building line.

Two Roof Slopes



For greater variety you can now choose from a low silhouette 2:12 pitch gable roof, or conventional 4:12 pitch gable roof.



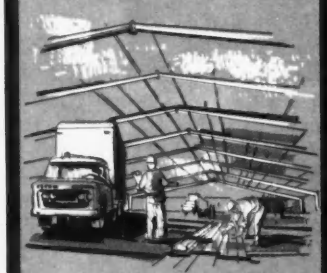
SEE THESE SWEEPING NEW FEATURES IN THE FAMOUS LINE OF ARMCO STEEL BUILDINGS

NEW Wall Beauty
NEW Ruggedness
NEW Comfort
NEW Economy
NEW Utility
NEW Sizes

Steel

There's more for you than ever before in Armco Steel Buildings. Inside and out, you'll find a handsome new look, new features, new advantages. Yet, important advantages that have won acceptance for Armco Steel Buildings for the past 40 years are still there. The durability, tightness, safety and salvability, the ease of finishing, the strength and attractiveness are still there. But now you get even more! Here are the highlights from Armco Drainage & Metal Products, Inc., Middletown, Ohio.

Greater Widths



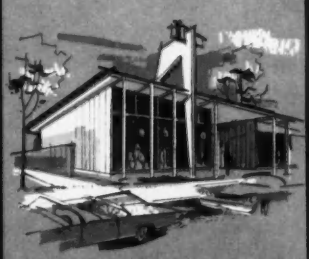
Clear spans of 120 feet are now available, topping out a range of 18 widths that starts at 5'4".

New Heights



To the widest range of heights in the industry, Armco Buildings now add even more. Range is from 8 feet to 40 feet.

New Buildings



A brand new series of buildings with a single slope roof design is offered, in a variety of widths up to 24 feet.

GET DETAILS IN FREE LITERATURE

Armco Drainage & Metal Products, Inc.
6010 Curtis Street, Middletown, Ohio

Please rush details about the all-new Armco Building line. I am interested in a building for the following use: _____

Approximate size: _____

NAME _____

TITLE _____

ORGANIZATION _____

STREET _____

CITY _____ ZONE _____ STATE _____

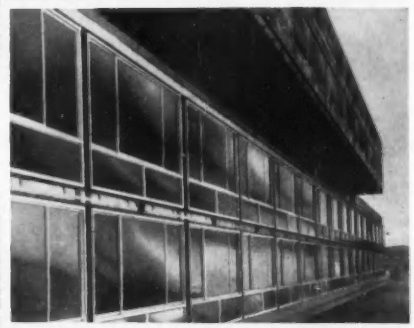
ARMCO DRAINAGE & METAL PRODUCTS

ARMCO

Subsidiary of ARMCO STEEL CORPORATION

OTHER SUBSIDIARIES AND DIVISIONS: Armco Division • Sheffield Division • The National Supply Company • The Armco International Corporation • Union Wire Rope Corporation





FIRST LINE OF DEFENSE



On duty, giving 24 hour protection against the elements, at some of the nation's most vital buildings, such as the new Air Force Academy at Colorado Springs and the world's most famous office building, the Pentagon, Washington, D. C., Hornflex Thiokol* LP-32 Sealant serves the nation.

Hornflex Sealant was selected to perform these important weather sealing tasks because it compresses, stretches and flexes with wall movement—yet keeps a solid weather seal at all temperatures. Bonds lastingly to aluminum, glass, steel, concrete and stone to form a watertight seam that stays put.

Find out how Hornflex Sealant can serve as your first line of defense against the elements.

*Registered trademark of Thiokol Chemical Corp.

SEE OUR CATALOG IN SWEET'S

Write for new free 18-page catalogue—AR 666.

A. C. HORN COMPANIES

Subsidiaries & Divisions

Sun Chemical Corporation

750 Third Avenue, New York 17, N. Y.

Plants:
Long Island City
Chicago
Houston
Denver
Los Angeles
San Francisco
Portland, Ore.
North Bergen, N. J.
Toronto

Sales offices and warehouses throughout the United States and Canada.



"GENEVA wide cabinet selection permits planning without limitation"

HAROLD S. BRADLEY, *President • Bradley and Bradley Inc.*
Architects and Engineers • Rockford, Illinois



Glenview Junior High School, Glenview, Illinois, Bradley and Bradley Architects

Greater Durability! Lower Maintenance! Permanent Beauty! Choice of Colors!

You will find every cabinet and casework requirement more readily filled with greater freedom of design—by Geneva's more complete line of standard cabinets . . . and advanced facilities for custom design. And, Geneva's quality construction . . . superior finish . . . and many exclusive features are unparalleled in the industry. Consult a skilled Geneva school specialist for assistance on your planning problems.

New IMPASTO . . . Geneva's exclusive textured cabinet finish in etch-line steel. New warmth in appearance with the dignity and strength of Gibraltar.

Geneva KITCHENS

GENEVA MODERN KITCHENS
DIVISION OF ACME STEEL COMPANY
Geneva, Illinois

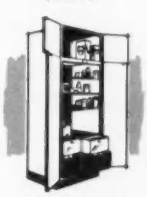
There's a Geneva Cabinet for Every Class Room Need



Ironing Board Cabinet



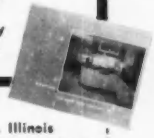
Wardrobe Cabinet



Food Staples Cabinet



Tote Tray Cabinet



GENEVA MODERN KITCHENS
School Division— Dept.AR-5-60 • Geneva, Illinois
Please send information on Geneva School Cabinet and Casework Line

NAME_____

SCHOOL OR FIRM_____

ADDRESS_____

CITY_____

White House Conference Hears Latest on Fallout Shelters

The feasibility of fallout shelter standards, and relation of fallout shelter to radiological defense, evacuation, and recovery, were defined in new detail by Leo A. Hoegh, director of the Office of Civil and Defense Mobilization, at the White House conference on fallout protection early this year.

While there were no changes voiced in the Federal policy regarding protection for nuclear attack, Director Hoegh at that time gave the Governors' Committee on Civil Defense a complete rundown on these matters.

It now is nearly two years since the National Policy on Shelters was announced by the President. In the intervening months OCDM and other agencies of government have conducted extensive research in the general field of fallout protection, and OCDM has issued several guides to help in construction of simple shelters, largely on a do-it-yourself basis.

The 1961 budget seeks $11.5 million for incorporation of fallout shelters in all new civilian Federal structures determined to be suitable, and the OCDM is proceeding with its program of prototype design and construction, which it calls a program of both research and demonstration.

(The agency now has distributed more than 15 million copies of its publication, "The Family Fallout Shelter," and holds that the building of home units is progressing at a rate greater than is generally realized.)

The principal requirement is that there be a mass of material between the shelter occupants and the radioactive fallout, Director Hoegh told the state governors at the White House. The more dense the materials, the more effective the protection. Of the dense materials, earth is the most readily available and the cheapest.

An underground shelter is shielded by the earth around it, Mr. Hoegh continued. An above-ground shelter covered with earth provides good shielding. And earth banked around exposed portions of basement walls increases their protective qualities.

Other construction materials mentioned by Mr. Hoegh as being relatively inexpensive and of excellent shielding quality: poured concrete, concrete block, brick, clay tile filled with sand, and steel and fiber-glass-reinforced plastics, as well as treated wood covered with earth.

Designs for dual-purpose shelters in schools, garages, hospitals, apartments, and office buildings, are available now or are nearing completion, the director said. Further designs for shelters beneath streets, in dome forms, in industrial plants, and in subways are being developed.

"We are stimulating shelter design by the various materials manufacturers," Mr. Hoegh continued. "We seek to develop the most practical and economical dual-purpose shelters for both the home and community. . . . We have also given technical guidance to many individuals and firms who have developed shelter designs, some for their own use and others for inclusion in housing developments or for general sale."

The governors were told that adequate fallout shelter can be constructed at a cost of from $25 to $150 per person. The lower figure applies to do-it-yourself types. Where separate independent structures are required for shelter, the cost may run up to $150 per person or more. The cost for most shelters will fall between these two extremes. Cost tends to be lower, the OCDM director said, when the shelter can be incorporated in new buildings at the time of design.

The more elaborate do-it-yourself basement concrete block shelter, costing from $150 to $200 altogether, can reduce radiation exposure to about 1200th. OCDM says these would provide adequate fallout shelter in most of the nation.

"The success of a program of fallout protection would be dependent upon other emergency services and, in particular, upon the effectiveness of radiological monitoring and upon adequate communications," Mr. Hoegh observed.

Turning to the national policy on evacuation, the civil defense official said it was one that was constantly misunderstood or misrepresented. This policy states:

"Governments and the public will take such action on receipt of warning as is prescribed by the government involved.

1. "Evacuation or dispersal—target cities and other areas near assumed targets will, if time and conditions permit, execute plans for evacuation or dispersal to prepared reception areas.

2. "Shelter—if time and conditions do not permit evacuation, full advantage will be taken of existing shelter, and fallout protection will be improvised.

3. "The action to be taken is a local decision."

All states, 240 target areas and 2200 counties now have developed survival plans.

In this connection, Director Hoegh observed, "We are placing great emphasis on the construction of family fallout shelter. Evacuation plans should emphasize movement home to these shelters wherever possible. Sometimes it could be desirable to evacuate an area of intense radiation after an attack."

Later the governors were told, "We cannot say too bluntly that in the first two weeks after attack every individual family and every city and state government is likely to be on its own."

The Federal role to date has included these actions—

1. Education, with emphasis on facts about fallout and steps which can be taken to minimize its effects.

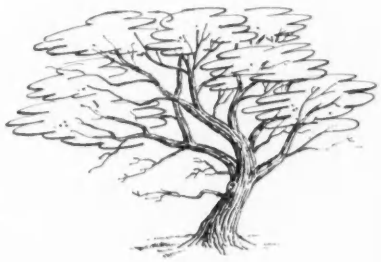
2. Survey of existing shelter, on a sampling basis, to demonstrate the value of existing structures in providing fallout protection.

3. Research, to show how fallout shelters can be incorporated in existing, as well as new, buildings.

4. Prototype design and construction; a program of both research and demonstration.

5. Leadership and example, by incorporating fallout shelters in appropriate new buildings.

6. Incorporation of shelters in existing Federal buildings (not yet funded.)





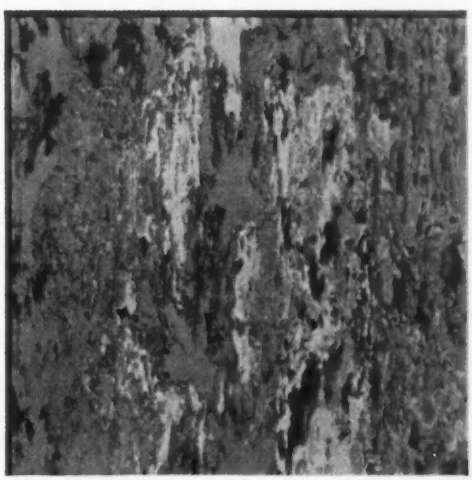


WOODGRAIN® ASPHALT TILE

another exclusive style in

KENTILE® FLOORS

For use where you want the warm look of natural wood, but are prohibited by budget limitations or installation or maintenance problems. For color selection, call your Kentile Representative for samples, or consult Sweet's File.



SPECIFICATIONS—
Size: 9″ x 9″;
Thickness: ⅛″; Colors: Maple and Cherry, each packed in random shades.

• • •

Woodgrain Tiles also available in Solid Vinyl, Vinyl Asbestos and Rubber.

Woodgrain Planks available in Solid Vinyl and Rubber.

Consult Sweet's File for specifications.

Kentile, Inc., Brooklyn 15, N. Y.

Washington Topics by *Ernest Mickel*

PBS Sees Saving in Spending On New Building Program

The Federal government is hurrying its 10-year building program in the District of Columbia and vicinity to save money on maintenance. A by-product of the forced-draft program, and a welcome one, will be the removal of the not-so-temporary structures that have cluttered the Mall area for years.

Detailing the building program and its progress recently, Public Buildings Commissioner Karl E. Wallace said the savings to be effected through housing government personnel in modern structures constituted one of the strong motives for his office to push the program as rapidly as possible.

For example, it costs the Public Buildings Service $552 per occupant per year to maintain the older executive offices building just west of the White House on Pennsylvania Avenue. This structure was put up in 1870. In the decade-old General Accounting Office building, on the other hand, the maintenance cost is only $152 per occupant per year.

The 10-year PBS plan is about 20 per cent along at the present time. When completed in 1970, it will house all the 180,000 workers in this area in modern office structures. Right now, an estimated 63,000 Federal employees go to work daily in buildings classed as insufficient and substandard. This condition, said Commissioner Wallace, hampers the work of people so housed, and many government operations suffer from it.

Eighteen per cent of the District of Columbia Federal force is housed in the so-called "temporaries." Some of these buildings date from World War I.

The PBS 10-year effort calls for construction of approximately 12 million sq ft of floor area. One of the more welcome results will be the consolidation of agency and department operations now scattered throughout the region. Altogether, Uncle Sam's workers punch the clock in 269 locations here. Of these individual office locations, only 44 are considered to be of a permanent nature. Another 52 are temporary, 64 are obsolete, and 109 are leased by the government.

Commissioner Wallace gave these statistics in illustration of the scattered and therefore less efficient office functions: The Department of Defense, despite its sprawling Pentagon across the Potomac River in Virginia, is housed in 51 different spots; State Department is in 37 but should soon be brought together in its new huge "annex" which wraps around the older State Department building; Commerce is housed in 22 different places; Treasury, Health, Education and Welfare, and Interior, in 21 each; Housing and Home Finance Agency (with its 3100 employees) in 11.

In all, the PBS is responsible for 110.9 million sq ft of floor area, of which 34.4 million sq ft is in the Washington, D. C., area. So far, PBS has been successful in removing only eight temporary structures and nine obsolete buildings since 1935, but the current program, if its head of steam can be maintained, will bring the long hoped for removals by 1970.

continued on page 328

SLATO • STEEL



and it's GUARANTEED for the life of the building . . .



EASY TO INSTALL
No special wall construction is necessary. Choice of two types of anodized aluminum trim and chalk trough.

SlatoSteel's hard, non-absorbing silicate surface wears indefinitely, never forming shine or "blind spots" even after hardest usage. Writing is always clear and distinct—easy to read, regardless of the type of chalk used. Holds magnetized teaching objects, letters, etc., for "see and move" learning.

SlatoSteel is coated with vitreous material fused on lightweight sheet steel on selected backing material. Easy to handle, moderately priced, SlatoSteel is a tough, flexible, resilient chalkboard that will never crack or chip. Never harmed by cleaning solutions or water.

write for full details and prices of SlatoSteel and other BC chalkboards and corkboards

serving the nation's schools through dealers

BECKLEY/CARDY

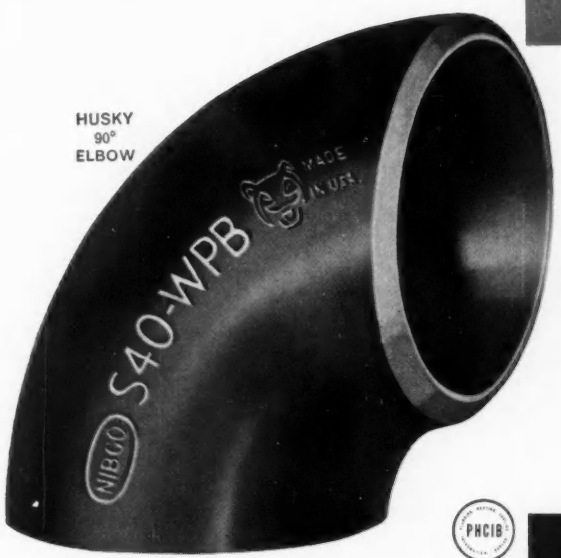
1911 n. narragansett ave. • chicago 39, illinois

Whether by automobile or movement of gases and liquids by pipeline, today's trend in transportation is toward efficiency and economy. **HUSKY** steel welding fittings are designed to provide both. In fact, a welded system using **HUSKY** fittings can now be installed for no more than a threaded system. Or, looking at it another way, you can save as much as 85% per fitting over the welded fittings now in use! **HUSKY** fittings are ideal for all Schedule 40 piping and fully comply with A.S.T.M. A234 specification . . . perform admirably at much lower cost. ✻

ASK FOR FULL PARTICULARS FROM YOUR WHOLESALER . . . OR WRITE NIBCO INC., Dept. KS-2105, Elkhart, Ind.



Husky fittings mean compact transportation, too!



HUSKY 90° ELBOW

PHCIB MEMBER



HUSKY STANDARD TEE

HUSKY REDUCING TEE

HUSKY ECCENTRIC REDUCER

HUSKY 45° ELBOW

HUSKY CONCENTRIC REDUCER

HUSKY STEEL WELDING FITTINGS

✻ Current jobs where **HUSKY FITTINGS** are being used include the following: **CANDLESTICK PARK STADIUM**, San Francisco, California; **JEFFERSON DAVIS HOSPITAL**, Houston, Texas; **WILLIAM WINLOCK MILLER HIGH SCHOOL**, Olympia, Washington; **MERCHANTS NATIONAL BANK AND TRUST COMPANY**, Indianapolis, Indiana; **CIVIL AERONAUTICS ADMINISTRATION CONTROL CENTER**, Fremont, California.

SEE NIBCO PRODUCTS, BOOTH 401, NAPC SHOW, CLEVELAND, JUNE 19-22





GO MODERN WITH LIGHTING BY SYLVANIA

For modernization projects or new buildings, you'll find the exact fixture you want for classroom illumination in Sylvania's complete line of school lighting fixtures.

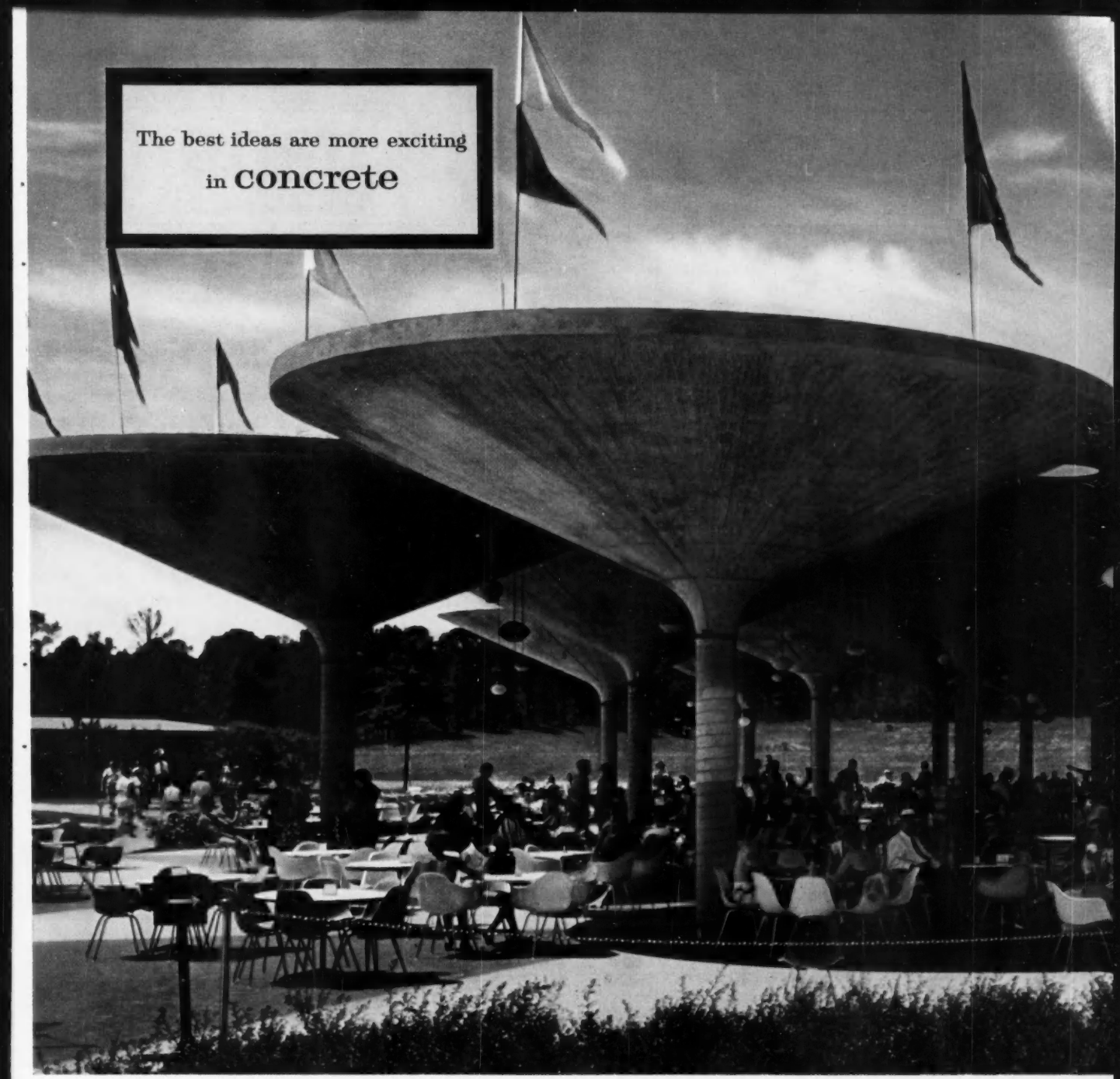
Other Sylvania fixtures and lighting systems, such as recessed troffers and wall-to-wall area methods, serve excellently for libraries, corridors, offices, cafeterias and other non-classroom areas.

To get the full story, write for a Sylvania catalog today. Better yet, ask for a Sylvania representative to stop at your office and give you complete information.

SYLVANIA LIGHTING PRODUCTS
A Division of SYLVANIA ELECTRIC PRODUCTS INC.
One 48th Street, Wheeling, West Virginia

Subsidiary of
GENERAL TELEPHONE & ELECTRONICS

FLUORESCENT LIGHTING FIXTURES AND SYSTEMS • BEST FIXTURE VALUE IN EVERY PRICE RANGE



Robin Lake dining pavilion, Ida Cason Callaway Gardens, Pine Mountain, Georgia. Architects: Aeck Associates, Atlanta, Georgia. Structural Consultants: Drake, Funsten & Harrison, Atlanta, Georgia

Gay parasols of concrete add a festive touch to eating out

Conical bowls atop slender concrete stems create a roof that's unusual and dramatic. For a pavilion where informal meals are meant to be fun, these parasols give just the right atmosphere.

Only in concrete do such architectural flights of fancy become so down-to-earth practical. With its unique plasticity, concrete provides endless creative potential.

Architects today are finding more and more new uses for concrete—as a basic structural material of exciting natural beauty as well as great strength. It's stimulating a whole new trend in contemporary American structures.

PORTLAND CEMENT ASSOCIATION *A national organization to improve and extend the uses of concrete*

Construction Cost Indexes

Presented by Clyde Shute, Director of Statistical Policy, Construction News Div., F. W. Dodge Corp., from data compiled by E. H. Boeckh & Assoc., Inc.

Labor and Materials: U.S. average 1926-1929=100

NEW YORK

PERIOD	RESIDENTIAL Brick	RESIDENTIAL Frame	APTS., HOTELS, OFFICE BLDGS. Brick and Concrete	COMMERCIAL AND FACTORY BLDGS. Brick and Concrete	COMMERCIAL AND FACTORY BLDGS. Brick and Steel
1930	127.0	126.7	124.1	128.0	123.6
1935	93.8	91.3	104.7	108.5	105.5
1939	123.5	122.4	130.7	133.4	130.1
1948	250.1	251.6	239.4	242.2	235.6
1949	243.7	240.8	242.8	246.6	240.0
1950	256.2	254.5	249.5	251.5	248.0
1951	273.2	271.3	263.7	274.9	271.8
1952	278.2	274.8	271.9	265.2	262.2
1953	281.3	277.2	281.0	286.0	282.0
1954	285.0	278.2	293.0	300.6	295.4
1955	293.1	286.0	300.0	308.3	302.4
1956	310.8	302.2	320.1	328.6	324.5
1957	318.5	308.3	333.1	345.2	339.8
1958	328.0	315.1	348.6	365.4	357.3
1959	342.7	329.0	367.7	386.8	374.1
Dec. 1959	346.9	333.9	372.6	389.8	378.3
Jan. 1960	346.9	333.9	372.6	389.8	378.3
Feb. 1960	348.8	335.1	374.0	391.1	379.7
	% increase over 1939				
Feb. 1960	182.4	173.8	186.1	193.2	191.8

ATLANTA

PERIOD	RESIDENTIAL Brick	RESIDENTIAL Frame	APTS., HOTELS, OFFICE BLDGS. Brick and Concrete	COMMERCIAL AND FACTORY BLDGS. Brick and Concrete	COMMERCIAL AND FACTORY BLDGS. Brick and Steel
1930	82.1	80.9	84.5	86.1	83.6
1935	72.3	67.9	84.0	87.1	85.1
1939	86.3	83.1	95.1	97.4	94.7
1948	199.2	202.5	178.8	178.8	178.8
1949	189.3	189.9	180.6	180.8	177.5
1950	194.3	196.2	185.4	183.7	185.0
1951	212.8	214.6	204.2	202.8	205.0
1952	218.8	221.0	212.8	210.1	214.3
1953	223.0	224.6	221.3	221.8	223.0
1954	219.6	219.1	233.5	225.2	225.4
1955	225.3	225.1	229.0	231.5	231.8
1956	237.2	235.7	241.7	244.4	246.4
1957	241.2	239.0	248.7	252.1	254.7
1958	243.9	239.8	255.7	261.9	262.0
1959	252.2	247.7	266.1	272.7	273.1
Dec. 1959	255.3	250.3	270.1	276.4	276.4
Jan. 1960	256.8	252.0	272.2	279.0	278.6
Feb. 1960	259.5	254.2	274.9	281.3	281.0
	% increase over 1939				
Feb. 1960	200.7	205.9	189.1	188.8	196.7

ST. LOUIS

1930	108.9	108.3	112.4	115.3	111.3
1935	95.1	90.1	104.1	108.3	105.4
1939	110.2	107.0	118.7	119.8	119.0
1948	227.9	231.2	207.7	210.0	208.1
1949	221.4	220.7	212.8	215.7	213.6
1950	232.8	230.7	221.9	225.3	222.8
1951	252.0	248.3	238.5	240.9	239.0
1952	259.1	253.2	249.7	255.0	249.6
1953	263.4	256.4	259.0	267.0	259.2
1954	266.6	260.2	263.7	273.3	266.2
1955	273.3	266.5	272.2	281.3	276.5
1956	288.7	280.3	287.9	299.2	293.3
1957	292.0	283.4	295.2	307.1	302.9
1958	297.0	278.9	304.9	318.4	313.8
1959	305.4	296.4	315.0	329.8	323.9
Dec. 1959	308.0	298.9	318.4	333.4	327.6
Jan. 1960	308.0	298.9	318.4	333.4	327.6
Feb. 1960	310.9	300.6	320.8	335.5	330.5
	% increase over 1939				
Feb. 1960	182.1	180.9	170.3	180.0	177.7

SAN FRANCISCO

1930	90.8	86.8	100.6	104.9	100.4
1935	89.5	84.5	96.4	103.7	99.7
1939	105.6	99.3	117.4	121.9	116.5
1948	218.9	216.6	208.3	214.7	211.1
1949	213.0	207.1	214.0	219.8	216.1
1950	227.0	223.1	222.4	224.5	222.6
1951	245.2	240.4	239.6	243.1	243.1
1952	250.2	245.0	245.6	248.7	249.6
1953	255.2	257.2	256.6	261.0	259.7
1954	257.4	249.2	264.1	272.5	267.2
1955	268.0	259.0	275.0	284.4	279.6
1956	279.0	270.0	288.9	298.6	295.8
1957	286.3	274.4	302.9	315.2	310.7
1958	289.8	274.9	311.5	326.7	320.8
1959	299.2	284.4	322.7	338.1	330.1
Dec. 1959	304.7	289.2	329.5	345.6	335.7
Jan. 1960	304.7	289.2	329.5	345.6	335.7
Feb. 1960	306.1	290.6	332.7	347.8	339.9
	% increase over 1939				
Feb. 1960	189.9	192.6	183.4	185.3	191.7

Cost comparisons, as percentage differences, for any particular type of construction, are possible between localities, or periods of time within the same city, by dividing the difference between the two index numbers by one of them; i.e.:

index for city A = 110
index for city B = 95

(both indexes must be for the same type of construction).

Then: costs in A are approximately 16 per cent higher than in B.

$$\frac{110-95}{95} = 0.158$$

Conversely: costs in B are approximately 14 per cent lower than in A.

$$\frac{110-95}{110} = 0.136$$

Cost comparisons cannot be made between different types of construction because the index numbers for each type relate to a different U. S. average for 1926-29.

Material prices and wage rates used in the current indexes make no allowance for payments in excess of published list prices, thus indexes reflect minimum costs and not necessarily actual costs.



ALUMINUM GRATING FACADES—CUSTOM STYLING TO SUIT ARCHITECT

Shown above: Aluminum grating facade over entranceway of Ford Motor Company engine plant at Lima, Ohio.

F. A. Fairbrother & George H. Miehls, *Architects & Engineers.*
Albert Kahn Associated Architects & Engineers, *Consultants,* Detroit, Michigan.

Light weight maintenance-free aluminum grating manufactured to the precise standards of Borden Metal Products Company is highly adaptable to the modern architectural developments in building design.

Available in plain or color-anodized aluminum, panels are made in any specified design and openings from basic straight cross bars or crimped bars to suit the architect's design requirements.

Write today for free 16-page catalog showing all basic types of grating; more than 30 dimensional drawings of subtypes; eight safe load tables for steel and aluminum grating.

BORDEN METAL PRODUCTS CO.
"greatest name in gratings"
822 Green Lane ELizabeth 2-6410 Elizabeth, N. J.
Plants at: Union, N. J. • Leeds, Ala.
Conroe, Texas • Beeton, Ontario

BORDEN METAL PRODUCTS CO.

Gentlemen:

Please send me NEW 1960 BORDEN Catalog

NAME.....

TITLE.....

COMPANY NAME.....

ST. AND NO.....

CITY AND STATE.....

"Red" Davis, Flintkote salesman and roofing expert, says...

NOW YOU CAN BRUSH A BRIGHT METALLIC LOOK—A TIGHT PROTECTIVE COATING ON YOUR PLANT WITH FLINTKOTE'S NEW ALUMINIZED STATIC® COATING!





"That's right. Just a brush or a spray is all you need to have a brilliant, metallic coating on your plant roof, water tank or other exposed surface areas. Flintkote's new Aluminized Static is a protective coating that gives all the high reflective insulating qualities of aluminum plus the waterproofing and durability of asphalt static coating.

"In fact, no other known form of bituminous coating will outlast Aluminized Static when exposed to weather! You can use Aluminized Static—the only asphalt emulsion containing aluminum—on metal, masonry, rock wool, glass or asphalt-covered surfaces. Aluminized Static dries very fast to a tough, even coating. It won't flow when subjected to the hottest sun. It can't burn since it has no flammable solvent. And Aluminized Static doesn't stain or alligator-crack over any normal type of asphalt sub-surface. The metal pigment in Flintkote's Aluminized Static is evenly dispersed—not just on the surface."

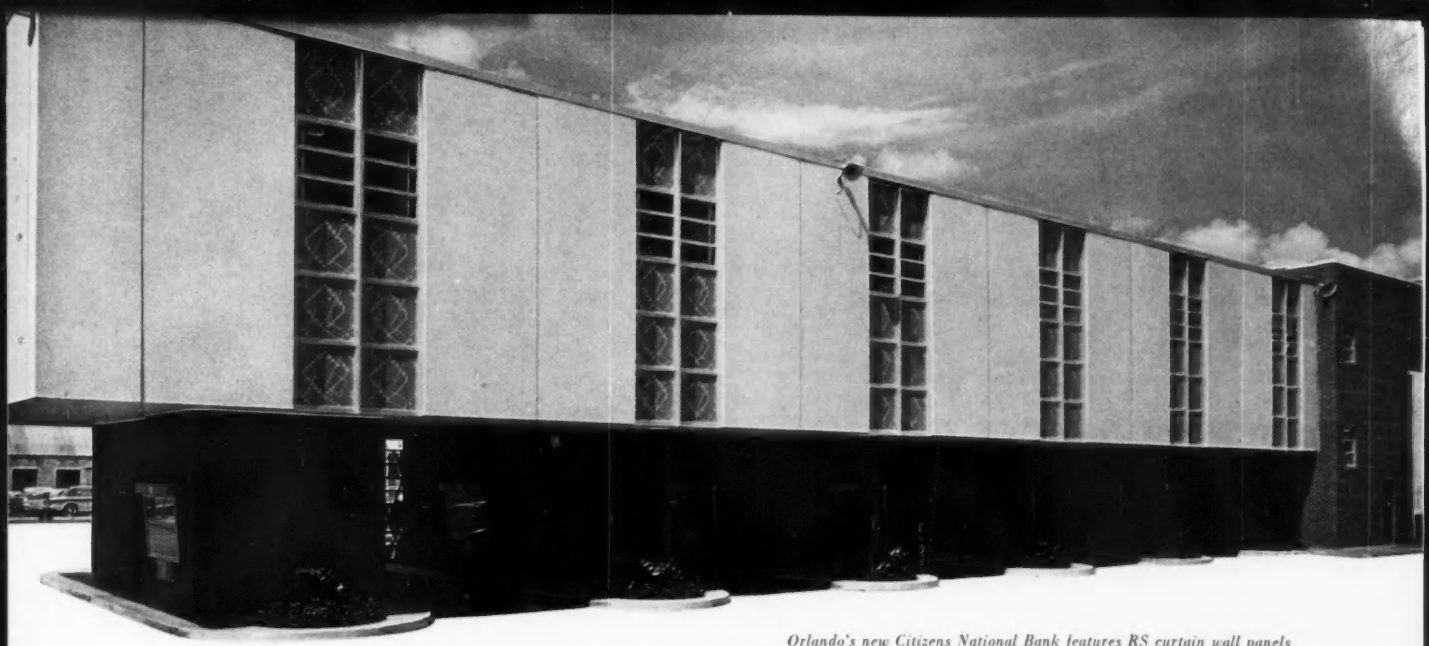
Aluminized Static has been proved to have exceptional waterproofing and corrosive-resistant qualities.

For particulars and literature, see your Flintkote representative. You'll find him a great guy to work with . . . and he knows his stuff in building materials.

The Flintkote Company, 30 Rockefeller Plaza, New York 20, N. Y.

FLINTKOTE

America's broadest line of building products.



Orlando's new Citizens National Bank features RS curtain wall panels of unglazed Romany•Spartan ceramic mosaics in a custom pattern.

Create striking exteriors with RS CURTAIN WALL PANELS of ceramic tile

Used alone, or in conjunction with conventional exterior finishes, RS Ceramic Tile Panels offer the designer unlimited latitude in choice of color, texture and pattern. Here is the permanence and maintenance-free beauty of time-proven ceramic tile, delivered to job-site in light-weight, custom-made prefabricated units, ready for simple, speedy erection in any frame. A favorable unit price combined with low installation cost makes RS Panels an outstanding value. Want more information? Call your nearby Romany•Spartan sales representative, or write for full-color Bulletin RSP-202. Ceramic Tile Panels, Inc., Department AR-14, Canton 2, Ohio.

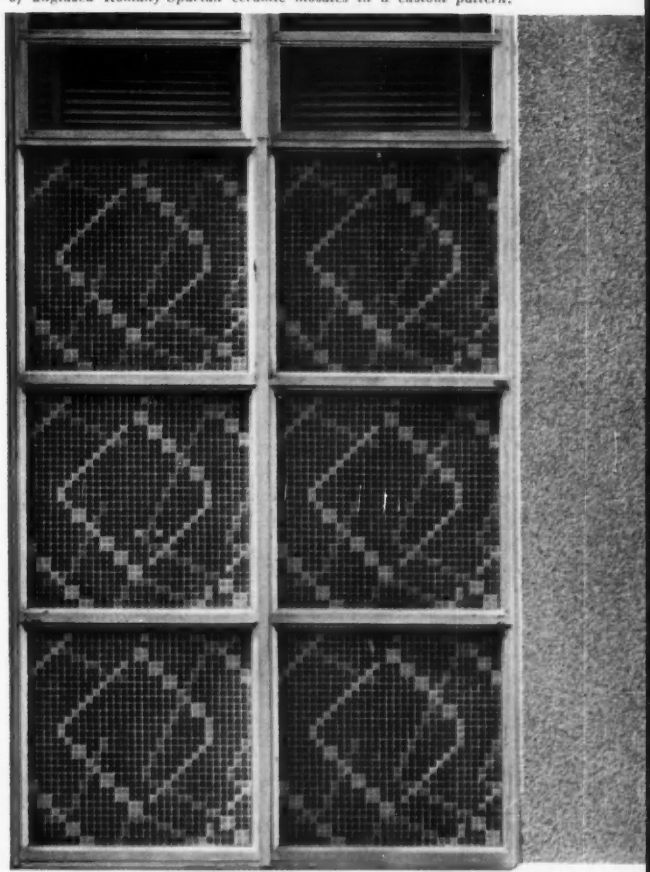
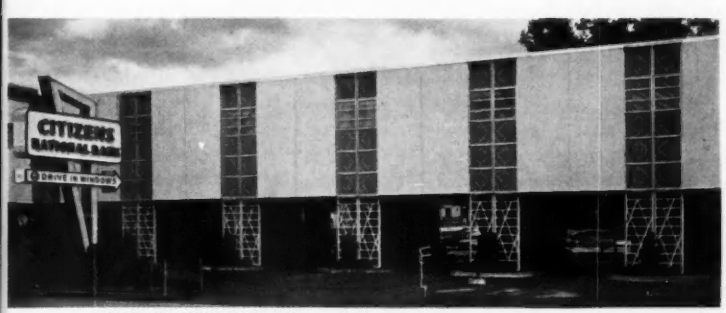


Plate No. 1090



CITIZENS NATIONAL BANK
Orlando, Florida

Architects:
THE EDWIN T. REEDER ASSOCIATES
Miami, Florida

MEMBER

ROMANY • SPARTAN

RS Panels

CERAMIC TILE PANELS, INC.

A subsidiary of United States Ceramic Tile Co.

Required Reading

New Life of Sullivan

LOUIS SULLIVAN AS HE LIVED. *By Willard Connely. Horizon Press, Inc., 220 W. 42nd St., New York 36, 322 pp., illus. $6.50.*

Although he has subtitled his book *The Shaping of American Architecture*, Mr. Connely does not stake his claim as an architectural historian but rather as a competent biographer. The standard text on Sullivan the Architect remains Hugh Morrison's *Louis Sullivan;* but on the subject of Louis the Man, Mr. Connely has provided new evidence, and proved his claim.

Sullivan, of course, left his *Autobiography*, but aside from his early years, it was an impersonal account of, as the title said, the life of an idea of architecture. Nor were his associates a great deal of help in describing Sullivan as an individual; both Wright and Elmslie, from whose writings and conversations a good deal of information came, agreed with Sullivan that it was his works and words that counted, not his personal life. By diligence, Mr. Connely has succeeded in unearthing letters and notebooks, and in interviewing remaining members of Sullivan's family and circle of friends.

The picture that emerges is of a personal life which did little to mitigate the central tragedy of Sullivan's blighted career. By all testimony, he was a naturally solitary man in his maturity, though he seems to have had a normal share of chums as a young man. His misfortune was to see almost all of his few close personal and professional attachments fall away—wife, brother, partner, colleagues. His one comfort toward the end of his life would seem to be his reconciliation with Frank Lloyd Wright.

It would be impossible, of course, to write a biography of an architect without covering his work. Mr. Connely does this mostly by reporting on the commissions (including an interesting letter from Sullivan on the subject of the Auditorium), and on the reactions of contemporaries. He concludes that Sullivan's decline was due not so much to his break-up with Adler but rather, as others have also concluded, to the performance of the Eastern architects at the World's Fair (aided by the untimely death of John Root, Sullivan's only ally on the committee), and equally by the failure of the Fraternal Templars to erect the "setback" skyscraper Sullivan had designed for them. If the Templars had gone ahead with the plans, Mr. Connely contends, Sullivan's reputation might have been saved regardless of the country's whole-hearted embracing of the Fair's classicism, and the results might even have restrained the trend toward eclecticism. But with events coming in tandem as they did, what followed was inevitable.

Unless there is a trove of Sullivan correspondence and journals lying somewhere undiscovered, Mr. Connely would seem to have had the last word on Louis the Man.

Urban Utopia

THE IDEAL CITY. *By Helen Rosenau. Routledge & Kegan Paul, Ltd., London; Boston book and Art Shop, Boston. 168 pp., illus. 30s.*

This book is an historical survey of the concept of the ideal city from the time of Plato to the present day. It was undertaken with a view towards defining and setting in historical perspective ideas which, although often unacknowledged, lie behind much contemporary architectural and

continued on page 68



" . . . he had snatched a drink and gulped it."
—by Alan Dunn (see review)

A Mars'-Eye View

IS THERE INTELLIGENT LIFE ON EARTH? *A story in words and pictures by Alan Dunn. Simon and Schuster, Inc., 630 Fifth Ave., New York 20, 118 pp., illus. $3.50.*

Alan Dunn, one of ARCHITECTURAL RECORD's most popular contributors for over twenty years, has done it again. (Pun absolutely unavoidable; sorry.)

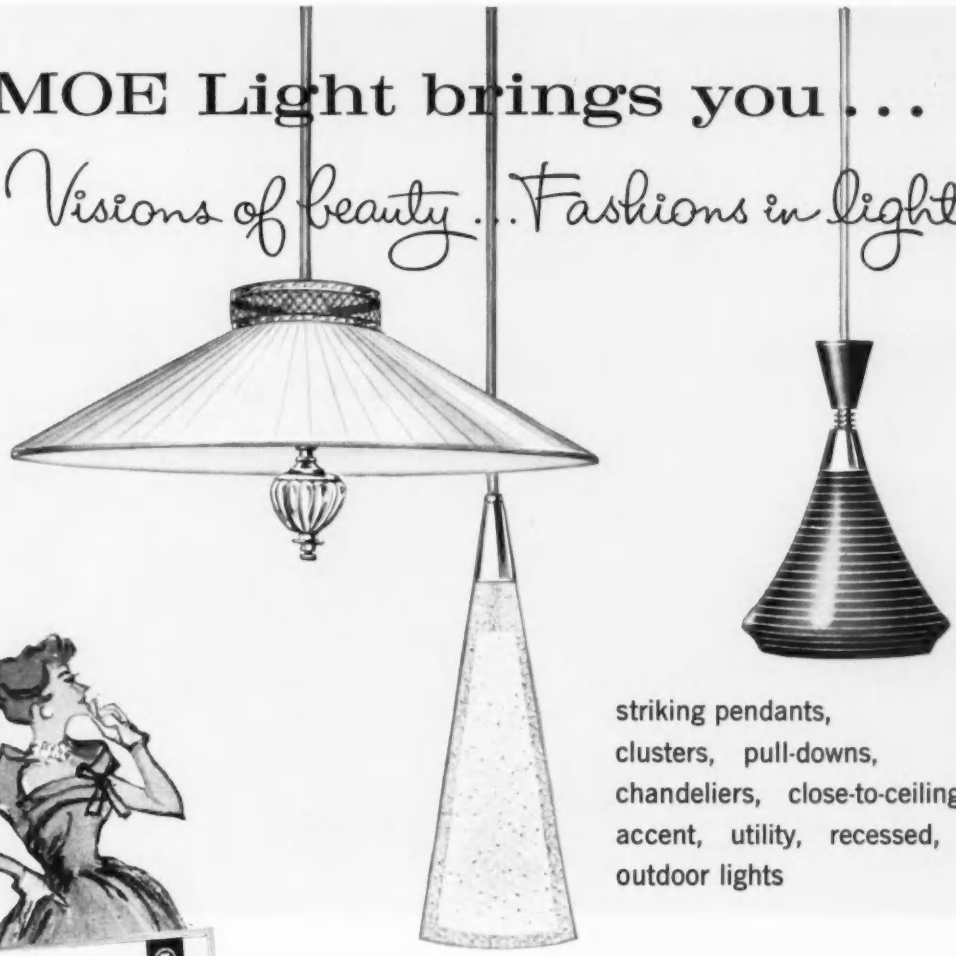
His latest book is not just another collection of cartoons, however—he is emphatic about that—but a social satire with a continuing text illustrated, naturally, in his familiar style. His men from outer space are *very* real characters on a very real mission. From the moment they take off from Mars in their 1,001,961-model space ship to the final countdown on earth, the pear-headed little adventurers are more canny than any Scotsman who ever lived.

The Martians, says Mr. Dunn, consider the level of one's intelligence evidenced "by the extent of the individual's happiness, by an attitude of love for one's fellows and by the absence of hostility, distress and conflict." They discover that earthlings "come in assorted colors and tend to separate according to hue . . . They are of ample girth and they come in a most extraordinary variety of shapes and sizes."

continued on page 374

MOE Light brings you . . .

Visions of Beauty . . Fashions in Light



striking pendants,
clusters, pull-downs,
chandeliers, close-to-ceiling,
accent, utility, recessed,
outdoor lights



a New Line of dramatic Decorator fixtures

. . . all shown in this incomparable new catalog and guide to decorative lighting

- 64 Pages in Full Color
- Hundreds of Decorator Fixtures
- Room-by-Room Lighting Guide
- Latest Decorative Lighting Ideas
- Easy Guide to Fixture Selection

FREE! Send Now for Colorful NEW 1960 MOE Light Catalog and Decorative Lighting Guide

NATIONALLY ADVERTISED!

Full page, full color ads in:

•House & Garden •Living for Young Homemakers •House & Garden Book of Building
•House Beautiful •House Beautiful Building Manual •Living's Guide to Home Planning
•New Homes Guide •Better Homes & Gardens Home Improvement Ideas

TOTAL READERSHIP **14,300,000**

MOE LIGHT

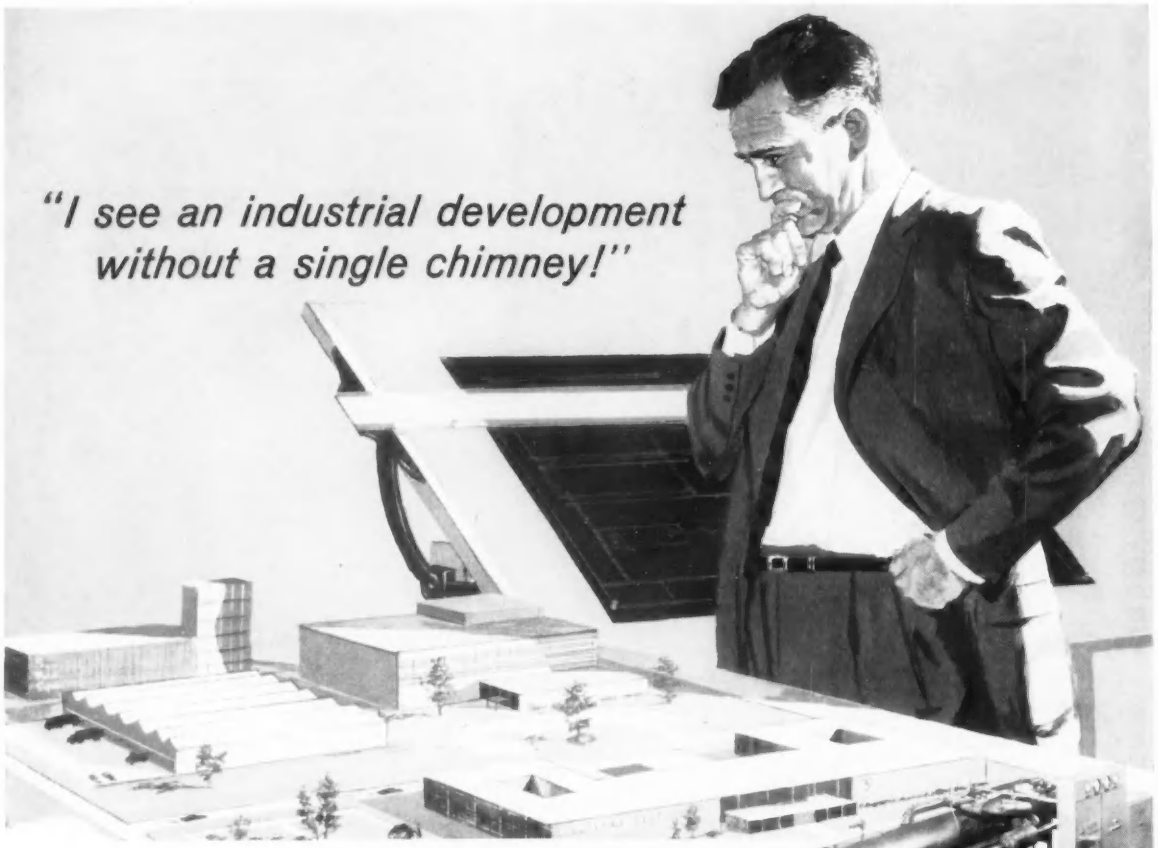
THOMAS INDUSTRIES INC.
LIGHTING FIXTURE DIVISION
207 E. Broadway, Louisville 2, Kentucky
The World's Largest Single Source of Lighting for Home, Commerce and Industry

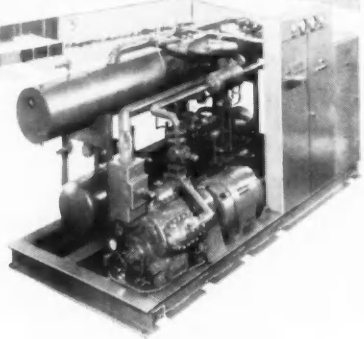
SEND FOR YOUR FREE COPY TODAY!

THOMAS INDUSTRIES INC.,
Lighting Fixture Division
207 E. Broadway, Dept. AR-5
Louisville 2, Ky.

Please send new free 64-page full color MOE Light Decorative Lighting Guide & Fixture Catalog.

Company _____
Address _____
City _____ Zone ____ State ____
Your Name _____





Factory Assembled YORK Heat Pump Heats and Cools with Air and Power

—Eliminates chimneys, boilers, fuel storage

EXCLUSIVE COMPOUND COMPRESSION—Patented multi-stage compression wrings heat from even—10° F. air making York Heat Pumps practical in coldest climates. Compound compression delivers up to 67% more heat than single-stage system from same power.

REDUCES COSTS, SAVES SPACE—No unsightly chimney to build and maintain, no boilers to tend, no space-wasting fuel storage, no smoke and soot. Compact system can be located anywhere from basement to roof, or even in separate building.

NO SUPPLEMENTARY HEATING—Compound compression eliminates need for electric strip heating, reduces operating costs. York Heat Pumps can heat and cool simultaneously, or automatically switch from one to the other according to load.

SIMPLIFIED SELECTION AND INSTALLATION—Can be completely factory assembled to save design time and field labor. Units from 50 to 150 tons cooling and up to 1,200 MBH heating. Larger, field-assembled systems to meet your requirements.



Another YORK Trail Blazer Concept Proved in Action at *Sylvania Laboratory, Amherst, N. Y.*—A York Heat Pump provides all-weather air conditioning for this 85,000 sq. ft., 2½ story research and testing facility. System delivers 250 tons cooling and 2400 MBM heating to York perimeter fan-coil units.

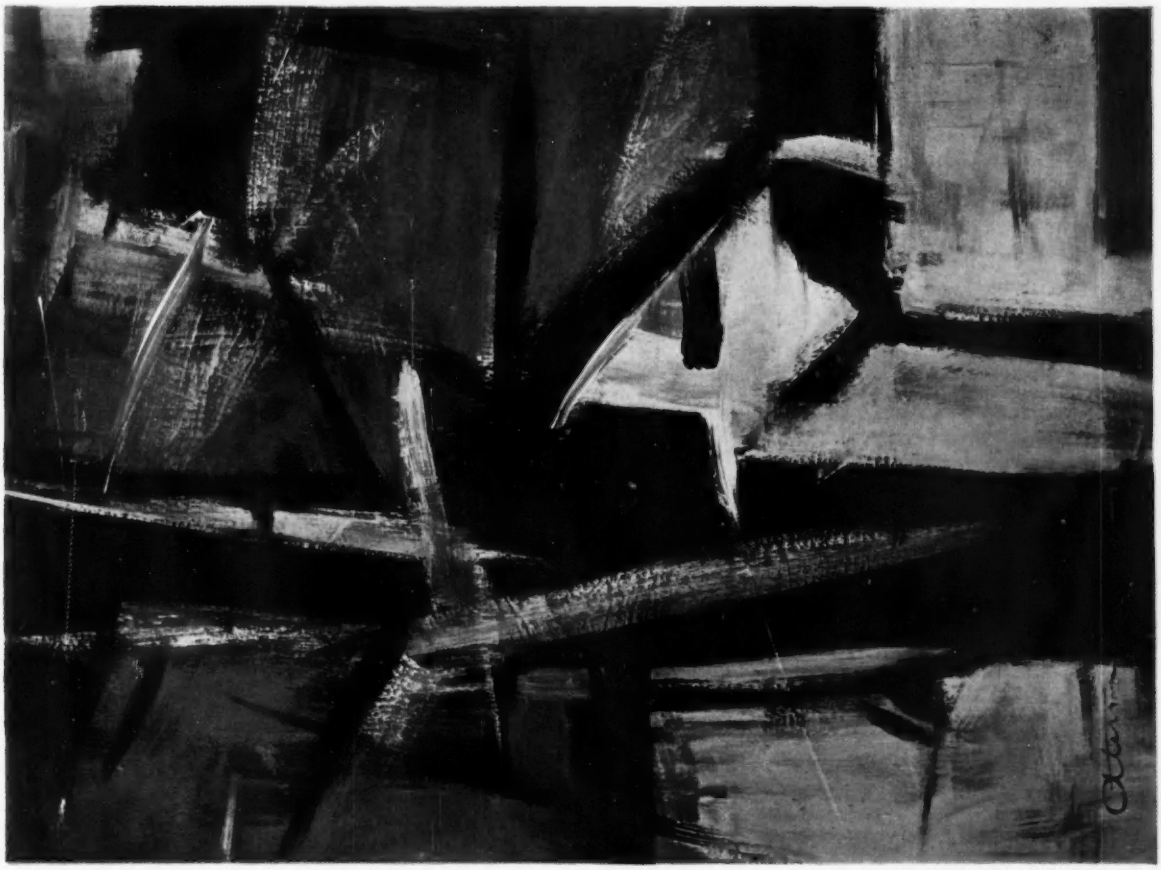
YORK

YORK CORP., SUBSIDIARY OF BORG-WARNER CORP., 4385 GRANTLEY RD., YORK, PENNSYLVANIA
In Canada—Canadian Ice Machine Co., Ltd.

YORK B-W DIVISION

BORG-WARNER
RESEARCH & ENGINEERING
MAKE IT BETTER

Air Conditioning, Heating, Refrigeration and Ice-Making Equipment • Products for Home, Commercial and Industrial Applications



PAINTING BY JOHN OTTERSON

IMPACT

The medium of curtain wall has burst upon the architect's world with dramatic force... no other development, since the beginning of construction, has so excited his imagination in the infinite possibilities of facade design with new materials and color.

Trouble-free, GRIDWALL has relieved the architect of all restrictions in his use of curtain wall. The 100% leak-proof record of every GRIDWALL installation throughout the United States and abroad is the reason GRIDWALL IS THE CURTAIN WALL MOST SPECIFIED.

A detail manual containing comprehensive GRIDWALL details, specifications and test data available on request.

GRIDWALL®
CURTAINWALLS

GRIDWALL COMPANY • 7463 VARNA AVENUE • NORTH HOLLYWOOD, CALIFORNIA • TRIANGLE 7-3213

"Will our new laboratory require special sinks for special corrosives?"



Not if you are careful to specify *"U. S." Chemical Porcelain Sinks.* For these are the laboratory sinks with time-proven ability to handle all corrosives safely.

Years of continuous service in leading hospitals, universities and industrial laboratories throughout the world attest to the everlasting durability of solid chemical porcelain under all types of corrosive conditions. Acids, alkalies, caustics, solvents — hot or cold, mixed or concentrated — a "U. S." sink handles them all. Commonly used cleaning solutions (such as potassium chromate and concentrated sulphuric acid) which may attack other materials cannot harm "U. S." porcelain sinks. With normal routine rinsing even hydrofluoric acid presents no special problem.

"U. S." sinks offer many excellent advantages. Scratch-resistant, stain-free, smooth gray-glazed surfaces assure a lifetime of beauty. No honing or scouring is ever required. High mechanical strength and superior heat-shock resistance for years of reliable, maintenance-free service.

Your Laboratory Furniture Dealer can give you complete details. See him or write for your free copy of new Bulletin L-8R describing over 50 standard sizes and many styles.

CHEMICAL CERAMICS DIVISION

U. S. STONEWARE
AKRON 9, OHIO

120-G

Required Reading

continued from page 64

Urban. . .

planning theory. There is a definite need for studies of this type, and Dr. Rosenau's book provides a clear and reliable introduction to a world of scholarship that is all but inaccessible to the general reader.

There do seem to be difficulties, however, in considering the ideal city in isolation from architecture on the one hand, and practical city planning on the other. The author seems, in fact, to draw on almost purely architectural matters in discussing the image of the city during the 18th and early 19th centuries. While the discussion of the relationship between English and French architectural theories of this period is of considerable value, one wonders why the frame of reference should have been enlarged at this point and not at others.

Conversely, by waiting until the final chapter to analyze the difference between an ideal city and a utopia and the relationship of both to practical planning problems, the author has sacrificed much of the authority that her conclusions would otherwise have possessed. This deliberate decision to analyze may be necessary in a study of this kind, but much of the material presented seems to cry aloud for some sort of discussion.

Take, for example, the description of the House of Vice and Virtue in the imaginary city of Sforzinda created by the Renaissance theorist Filarete. This building "served a truly comprehensive purpose, consisting of a ring of ten stories, on a square base, erected on a socle, and crowned by the statue of virtue. The structure was to contain lecture rooms, a brothel at the bottom and an academy of learning in the higher stories, culminating in provision for the study of astrology at the top." This remarkable concept, which epitomizes so neatly the contradictions inherent in ideal planning, is passed over without comment.

Nevertheless, such comment apparently lies outside the limits of the study, and within its limitations this remains a useful book indeed.

—Jonathan Barnett

more books on page 374

THE MOSAIC TILE COMPANY

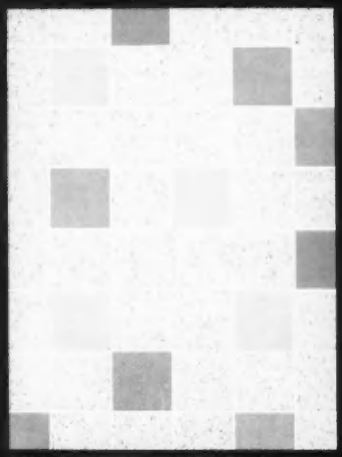
WALL TILE MEDLEY PATTERNS A.I.A. FILE NO. 23-A

The Fresh New Viewpoint **WALL TILE MEDLEY** *by* MOSAIC®

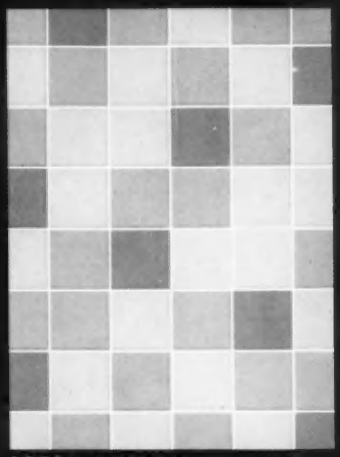
THE MOSAIC TILE COMPANY WALL TILE MEDLEY PATTERNS A.I.A. FILE NO. 23-A



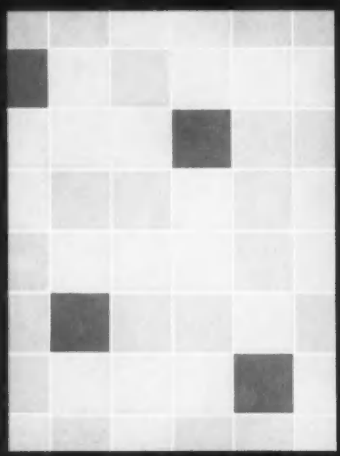
BLUE MEDLEY Satin-Glaze 1001; Bright-Glaze 1011 and 1012.



SALT & PEPPER MEDLEY No. 1 Bright-Glaze 6300; Satin-Glaze 1202, 1402, 1601, 1701 and 1702.



GREEN MEDLEY Satin-Glaze 1201; Bright-Glaze 1211 and 1212.



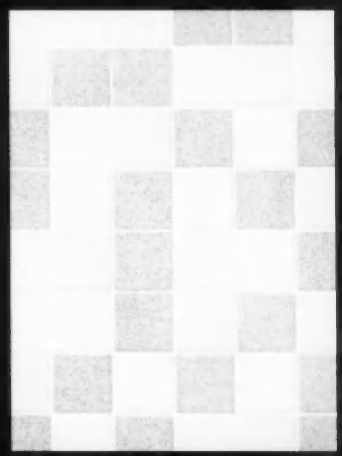
GRAY MEDLEY Satin-Glaze 1701; Bright-Glaze 1711 and 1712.

Mosaic Wall Tile Medley®

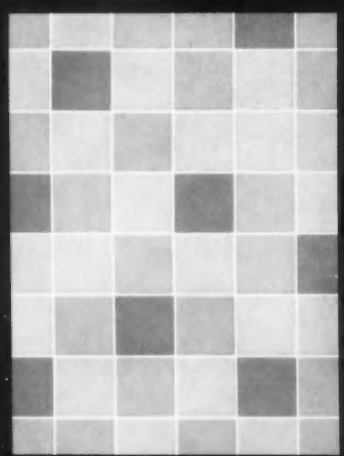
● *Eight Harmonitone color combinations* ● *All "Surf-Way" mounted for quick, easy installation* ● *Twelve 4¼" x 4¼" wall tiles to a sheet.*

Wall tile news of the year! The Mosaic Medley, now in wall tile, gives "new look" individuality to interior walls. As effective in the small bath as in the largest institutional area. Random installation of sheets gives an ever-changing, never-repeated arrangement of Satin-Glaze and Bright-Glaze colors. Install with adhesive or mortar. Sheets of tile may be soaked.

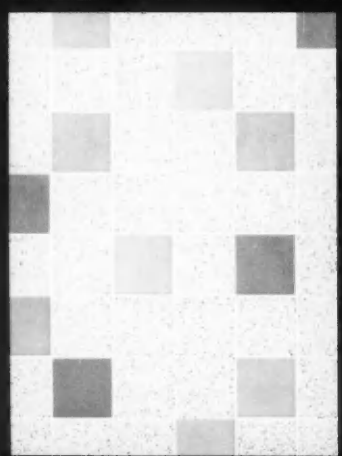
Specify and order by Medley names given here with each pattern. Prompt delivery from factory.



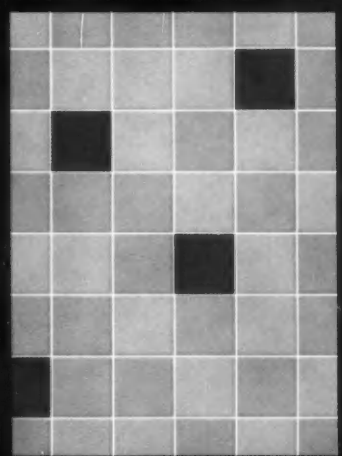
YELLOW MEDLEY Satin-Glaze 1301; Bright-Glaze 6507 and 1312.



PINK MEDLEY Satin-Glaze 1501; Bright-Glaze 1511 and 1512.



SALT & PEPPER MEDLEY No. 2 Bright-Glaze 6300, 1111, 1112 and 1511; Satin-Glaze 1101, 1102 and 1501.



TAN MEDLEY Satin-Glaze 1601; Bright-Glaze 1611 and 1612.

MOSAIC® **THE MOSAIC TILE COMPANY** Member Tile Council of America, Inc. and The Producers' Council, Inc.

OFFICES, SHOWROOMS, WAREHOUSES: Atlanta, Baltimore, Beverly Hills, Boston, Buffalo, Chicago, Cincinnati, Cleveland, Corona, Dallas, Denver, Detroit, El Monte, Fresno, Greensboro, E. Hartford, Hempstead, Houston, Ironton, Jackson, Jacksonville, Kansas City, Little Rock, Matawan, Miami, Milford, Milwaukee, Minneapolis, New Orleans, New York, Philadelphia, Portland, Salt Lake City, San Antonio, San Bernardino, San Diego, San Francisco, Santa Clara, Seattle, Tampa, Van Nuys, Washington, D.C., Zanesville. REPRESENTATIVES: Birmingham, Fair Haven, Oklahoma City, Pittsburgh, Spokane, St. Louis. DISTRIBUTORS: Albuquerque, Hato Rey, P.R., Havana, Honolulu, Newburgh, St. Louis, Quebec. PLANTS: Corona and El Segundo, Calif., Jackson, Miss., Little Rock, Ark., Matawan, N.J., Ironton and Zanesville, Ohio.



Dry floors assured at construction of new post office at Providence, R. I. Over 200,000 sq. ft. of Moistop used.

MOISTOP Gets Stamp of Approval on First Fully Automated Post Office Job!

Here's another example of how Moistop *covers the ground!* It prevents moisture migration upward into floors.

Moistop is a combination of reinforced, rot-resistant waterproof paper and polyethylene film. This combination provides the "inert" quality of polyethylene and the abrasion-resistance and tear-resistance of reinforced kraft. Result: Permanent moisture control, permanent protection.

Moistop unrolls quickly into place . . . meets FHA and VA minimum property requirements. Available in standard roll sizes of 72″, 84″ and 96″ containing 1200 sq. ft. at building material suppliers everywhere.

SISALKRAFT

AMERICAN SISALKRAFT CORPORATION
Chicago 6 • New York 17 • San Francisco 5
In Canada: Murray-Brantford Ltd., Montreal

reinforced paper, foil and plastics for construction, industrial packaging and agriculture



Not only does this saw-textured redwood have a charming, natural beauty but it will hold its finish far longer than most woods. Another advantage of using saw-textured redwood is the fact that it will sustain knocks and dents without showing wear.

CRA

How Redwood Adds to the Beauty

It is not surprising that so many of the homes that architects themselves most admire, were designed to be made of California Redwood. Of all available building materials, Certified Kiln Dried redwood unquestionably comes closest to meeting all the requirements, aesthetic and practical, of both architect and owner. When used for siding, decks, and in the garden, redwood beautifully and naturally helps relate the dwelling to its setting. Inside the home, redwood's rich color tones and interesting grain patterns create a feeling of warmth and an atmosphere that is casual yet elegant. Write Dept. 3 for your copy of "REDWOOD HOMES — Ideas from Architects' Own Homes".

All the wonderful warmth of wood is best expressed in redwood.

CALIFORNIA REDWOOD ASSOCIATION • 576 SACRAMENTO STREET • SAN FRANCISCO • CERTIFIED KILN DRIED REDWOOD

Architect: Marquis & Stoller

By the careful, imaginative selection of the lumber used for this handsome paneling, the architect has effectively taken advantage of the interesting natural variations in redwood's color tones. Another reason Certified Kiln Dried redwood is so often used for fine paneling is its exceptional dimensional stability.

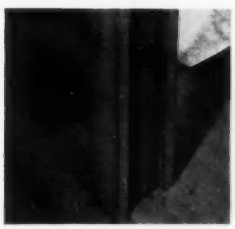
Here an unusual redwood divider was continued indoors to help make the deck a visual extension of the living area.





of this Well-Designed Home





Here the architect specified redwood facing for this central steel pier to preserve the striking effect gained by the dramatic use of redwood throughout the interior.

Whether redwood paneling is left in its natural state or given some type of stain treatment, its warmth and depth of color provide a handsome background for the owner's furnishings, contemporary or traditional.

functional beauty and "linen" luxury with

Continuous Cotton Towels





← New First American National Bank Building, Duluth, Minn. Architect Thomas J. Shefchik, A.I.A., Duluth. Contractor: Fowler-Veranth Construction Company and Klippen-Holm Company, Duluth.

↑ Recessed continuous-towel cabinets with base storage units. End clutter of waste receptacles. Integrate with the modern design of the wash room. (This installation serviced by: American Linen Supply Company, Duluth.)

You provide the finest in hand drying facilities AND MORE when you specify continuous towel cabinets.

Low cost installation and service by a linen supplier . . . Reduced maintenance and janitorial costs . . . Elimination of litter, storage and disposal problems . . . Limits fire hazard and plumbing repairs.

Add to this, the fact that you do not obligate the owner to any particular service, *even* when you specify recessed cabinets like the ones pictured above. (Recesses are designed to accept any of a wide variety of cabinets.)

So, why not make sure your clients get the best? Specify the luxury and quality of cotton toweling . . . include continuous towel cabinets in your design.

✳ Send for this free Planning-for-Cloth kit

Illustrated, includes specifications for recessed unit and continuous cloth towel cabinets. ***Write****—to Linen Supply Association on your letterhead.*



Linen Supply Association of America

and National Cotton Council • 22 West Monroe Street, Chicago, Ill.

NEW LOW SILHOUETTE FANDAIRE AIR-COOLED CONDENSERS

ALWAYS FACED RIGHT —NO MATTER WHAT THE WIND DIRECTION



No need to position circular Fandaire Air-Cooled Condensers to meet prevailing winds. Just set it anywhere for easiest piping.



Exclusive Aimco fintube design provides high-heat dissipating efficiency for circular Fandaire condensers.

Here's the newest, most advanced air-cooled condenser on the market—Fandaire! This modern low silhouette condenser is engineered around a new high-heat dissipating fintube of exclusive design and manufacture. In operation, the entire spiral of fintubing is surrounded with a circle of swiftly moving cool air for highest cooling efficiency. Every degree in temperature drop is fully utilized as this circular design captures the wind from *any* direction, regardless of placement or location. A powerful fan pulls cool air in and pushes warm used air up and away. Fandaire's constant gravity tube drainage gives continuous movement to condensate.

With its low, clean-lined silhouette, Fandaire does not detract from the general architectural effect of the building. And weighing ⅓ less than conventional installations, the Fandaire usually can be positioned where needed, without guy wires or extra bracing. Savings in piping and installation alone may be considerable.

Where there is a problem of architectural compatibility, or of cost or performance, chances are the new Fandaire Air-Cooled Condenser is the best solution. Engineered in sizes from 3 to 120 tons per unit, there is a Fandaire model for practically all single or multiple installations. Get complete information today.

YUBA

specialists in circular air-cooled condensers

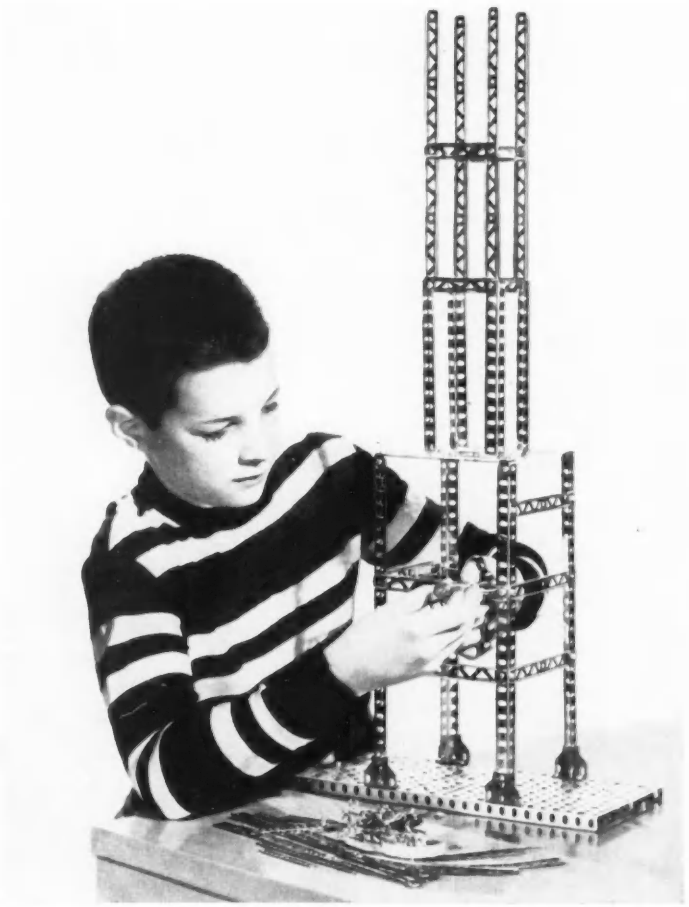
YUBA-AIMCO DIVISION

801 West 21st Street, Tulsa, Oklahoma

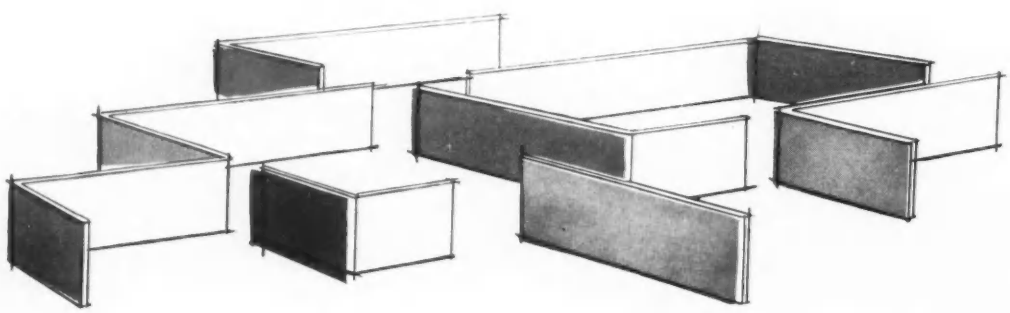
YUBA CONSOLIDATED INDUSTRIES, INC.

Sales Offices in Atlanta • Buffalo • Chicago • Cleveland • Houston • Los Angeles • New York • Philadelphia • Pittsburgh • San Francisco • Seattle

What structural material for schools?



arrives at the site ready to go up fast!





adapts to many fire-resistant constructions!



costs less per pound than a loaf of bread!



lends itself to easy expansion!

STRUCTURAL STEEL, OF COURSE!

All these advantages hold true not only for schools, but also for plant and office buildings, bridges, churches, houses, shopping centers. Remember, too, that both steel producers and steel fabricators have expanded facilities. That means you can get all the fabricated structural shapes you need—when you need them.

BETHLEHEM STEEL COMPANY, BETHLEHEM, PA.

Export Distributor: Bethlehem Steel Export Corporation

BETHLEHEM STEEL

Architects' choice... 2 to 1



Recently an independent research organization asked architects: "What brand of flush veneered doors is your first choice preference?" More than twice as many chose Roddis than the next leading brand! Why this great vote of confidence?

These architects know the Roddis name represents a standard of quality and craftsmanship unmatched in the industry. A standard maintained through more than 60 years of manufacturing and design leadership.

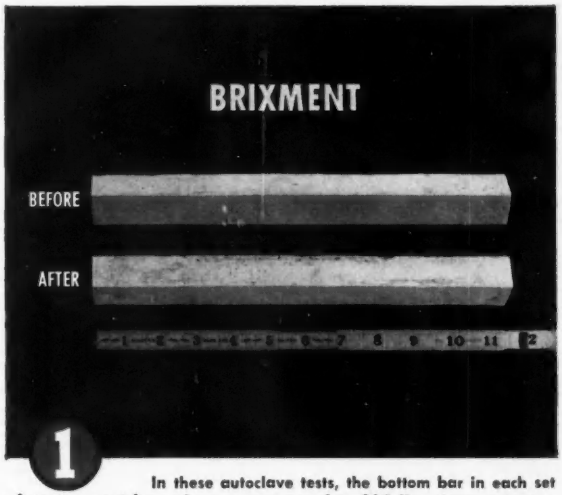
Today, more and more architects are specifying Roddis Doors. In the nation's offices and commercial buildings, for example. Managements are vitally concerned that their new buildings be built of quality products for greatest long-run economy. They insist on doors that will assure proper function, low maintenance and safety, for decades to come.

Roddis now offers the most complete wood door line wholly designed and produced by a single manufacturer. May we send you our latest brochure?

Roddis doors

RODDIS PLYWOOD CORPORATION

Marshfield, Wisconsin



In these autoclave tests, the bottom bar in each set of neat cement bars above was exposed to 295 lbs. steam pressure, 420° F., for 3 hours. *Left:* The two bars are both Brixment. Note that it is sound—it has not expanded. *Right:* The two bars were made of one part portland cement and one part of a lime which does not meet autoclave test. Note expansion—proof of unsoundness.



BRIXMENT meets the Autoclave Test for SOUNDNESS!

Sound mortar is essential for strong, durable brickwork. To be sound, mortar must be free of constituents which may cause abnormal expansion after long exposure to weather.

Unsoundness in mortar material is readily detected by the autoclave test. This severe test rapidly accelerates the chemical reaction of mortar materials, and the slightest unsoundness is immediately revealed by excessive expansion.

Brixment easily meets the autoclave test requirements of the Federal and ASTM specifications. It also complies with the strength requirements of both specifications for Type II masonry cement. Therefore, when Brixment is used, sound, strong, durable mortar is assured.

But soundness is only *one* of the characteristics in mortar necessary to produce top-quality masonry at lowest cost. Several others are listed below—and *no other mortar combines ALL these characteristics to such a high degree as Brixment mortar.* It is this combination of advantages that makes Brixment superior to any mixture of portland cement and lime—and which also accounts for the fact that Brixment has been the leading masonry cement for over 40 years.

Louisville Cement Company, Louisville 2, Ky.

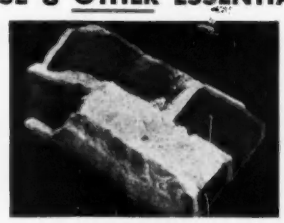
BRIXMENT MORTAR ALSO COMBINES THESE 8 OTHER ESSENTIAL CHARACTERISTICS



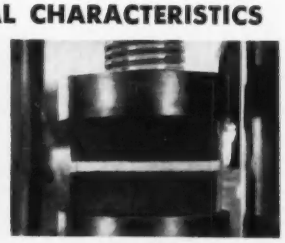
PLASTICITY



WATER RETENTION



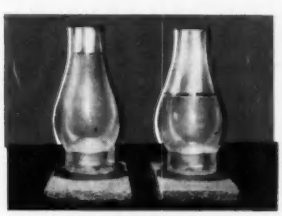
BOND



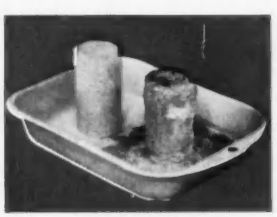
STRENGTH



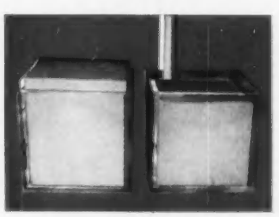
LOW EFFLORESCENCE



IMPERMEABILITY



DURABILITY



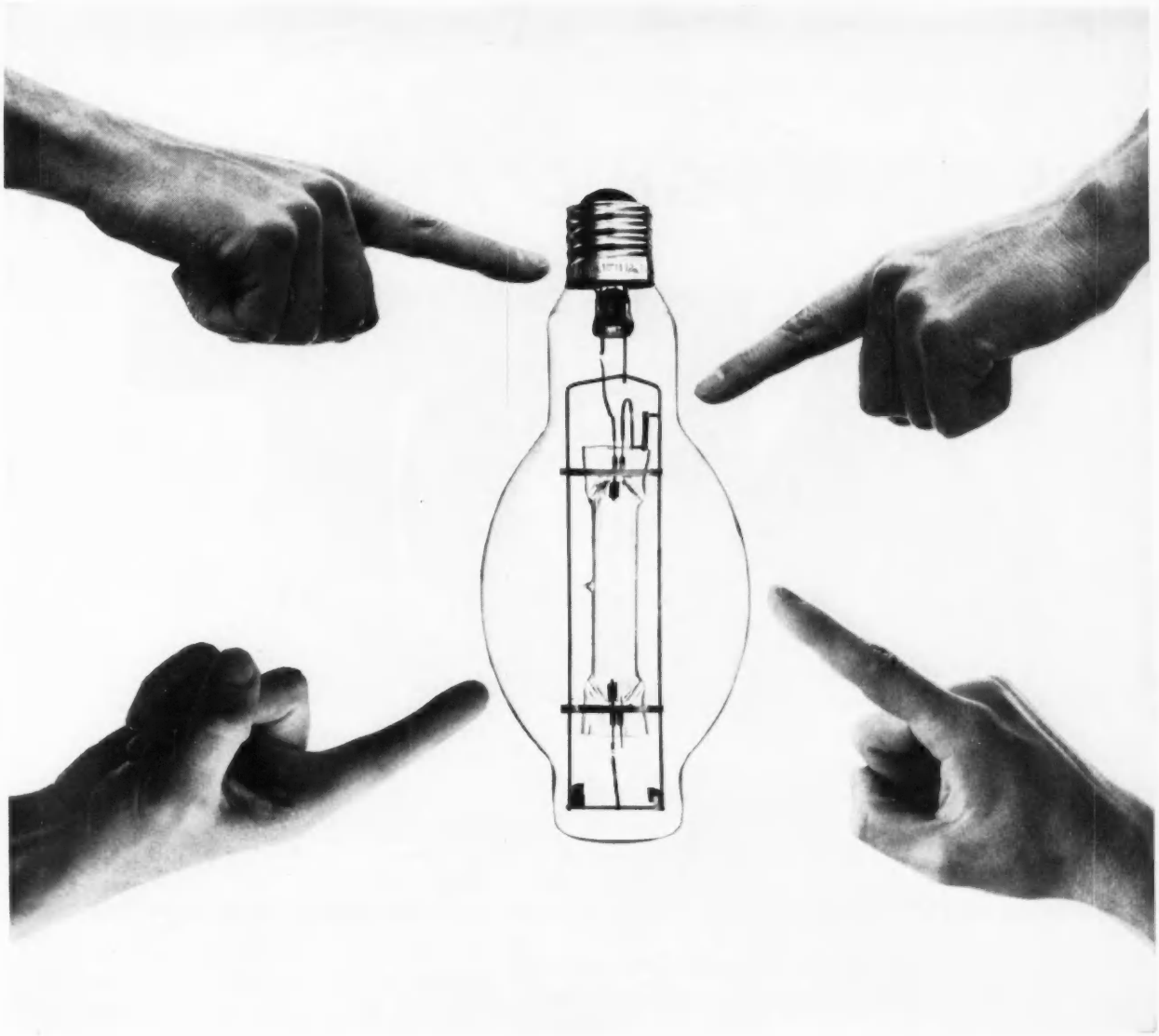
YIELD



Mercury lamps may look alike

These Mercury lamps look alike and cost about the same, but one—the Westinghouse Lamp—will deliver more light initially and maintain this high light output longer. It is your most economical choice for industrial and commercial lighting and incorporates all 4 outstanding improvements listed below.

1. Lifeguard™ arc tube to improve lumen maintenance. Even after 10,000 hours of use, these lamps will still give 85% of their initial light output. *This means that 2½ years after you install Westinghouse Mercury Lamps, your plant or streets will have almost the same high level of light as when the lamps were new!*



. . . but four differences make one a better buy!

2. New design electrodes lock in the emission material and insure long life and easier starting.

3. Weather Duty™ construction. Special glass is resistant to thermal shock and corrosive fumes. Moisture, industrial fumes, even snow and rain can't harm these Westinghouse Mercury Lamps.

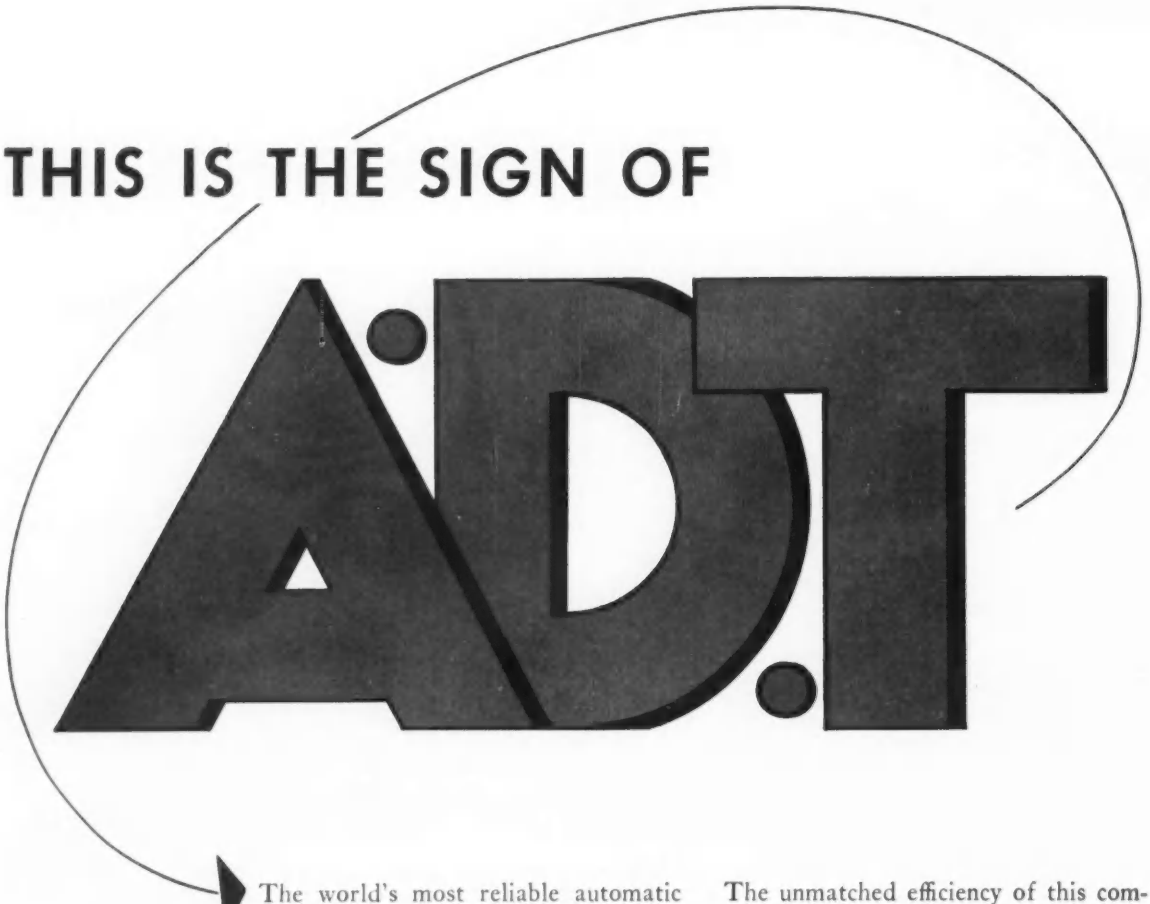
4. Hi-temp silicone cement holds bases tight for life . . . actually gets stronger as the lamps burn. No drop-outs. Westinghouse even date-codes its mercury lamps so you can check performance.

No matter what type or wattage of mercury lamps you use, you will get more value and light for your money—plus longer, trouble-free service—by specifying and insisting on Westinghouse Mercury Lamps. Westinghouse makes the most complete line of mercury lamps in the industry . . . 100 to 3000 watt sizes . . . in clear, color-corrected and reflector types. Contact your authorized Westinghouse lamp agent or nearest Westinghouse sales office.

YOU CAN BE SURE... IF IT'S Westinghouse

WESTINGHOUSE LAMP DIVISION, Westinghouse Electric Corporation, Bloomfield, N. J.

THIS IS THE SIGN OF



The world's most reliable automatic protection services against fire, burglary, holdup and other hazards.

It is the bane of burglars and arsonists, who recognize it as a formidable adversary. ADT subscribers from coast to coast are proud to display this monogram on their premises. It is a promise to their employees, customers and neighbors that they have provided the most dependable and modern service available to protect their lives, property and jobs.

The reputation of this symbol stems from the organization behind it, the American District Telegraph Company.

The unmatched efficiency of this company in safeguarding life and property is attained through everlasting attention to maintenance. It is the leader in its field, not only because of its superior detection and signaling devices, but because all ADT systems are regularly inspected, tested and always ready for reliable operation.

Is your building 99 and 99/100ths per cent immune to losses by fire or burglary? If not, call the ADT office listed in your telephone directory and find out how you can be better protected and (as is often the case) save money, too!

Controlled Companies of

AMERICAN DISTRICT TELEGRAPH COMPANY

A NATIONWIDE ORGANIZATION

Executive Office: 155 Sixth Avenue, New York 13, N. Y.

Climate by Chrysler



Edison Lanes, Edison Township, N. J. Chrysler Air Conditioning Contractor: Nicholas W. Schwalje, Inc., Metuchen, N. J.

World's largest bowling lanes cooled by Chrysler Packaged Air Conditioning

Almost a quarter of a mile separates Lane No. 1 from Lane No. 112 at Edison Lanes, Edison Township, N. J. If a bowler ever made the trek, then Chrysler Packaged Air Conditioning units would be keeping him cool and comfortable every step of the way.

It takes 340 tons of air conditioning to cool bowlers behind the foul lines and in the service areas. Since it is not necessary to cool the lanes themselves, the diffusers and air returns are concentrated at the foul lines to create a "curtain wall" effect. This prevents cool air from spilling out of the conditioned areas.

The 20- and 30-ton Chrysler Air Conditioners are self-contained evaporative condenser units with dual compressors. They're specially arranged to provide zone control, so only the lanes in use need be cooled.

Chrysler equipment was selected for this job because it offered the owners the twin advantages of flexible installation and most economical operation. For more information, or the technical cooperation of a Chrysler air conditioning engineer, write today.

CHRYSLER AIRTEMP

Airtemp Division, Chrysler Corporation, Dept. M-50, Dayton 1, Ohio
In Canada: Therm-O-Rite Products, Ltd., Toronto, Ontario



There's
no match
anywhere

for a **DONLEY INCINERATOR!**

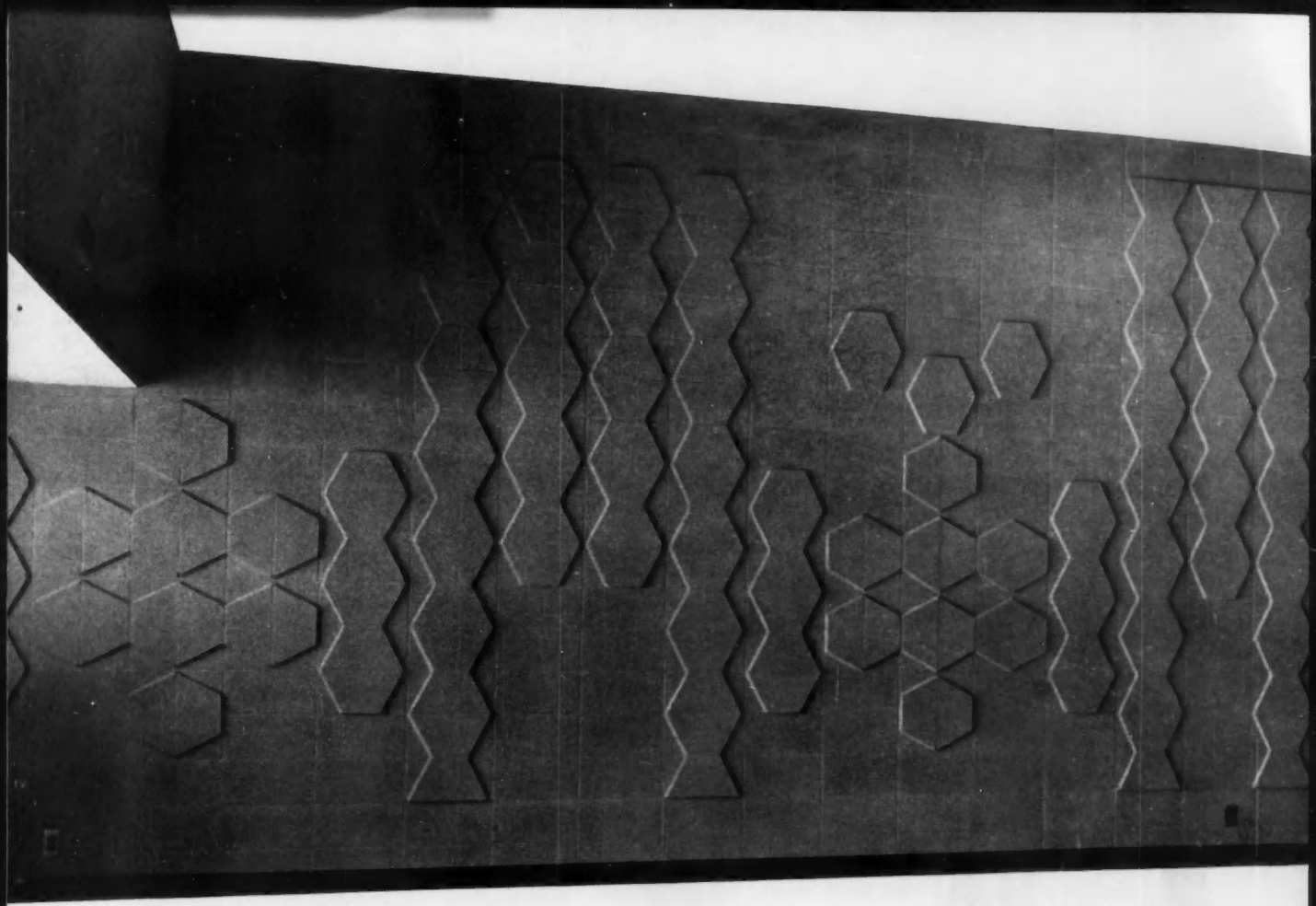
Get complete and rapid burning of refuse . . . without lighting a match . . . with the fully automatic Donley Safety Burner that provides frequent small fires at regular intervals. Complete protection against flame failure is afforded by the special Donley Safety Pilot. Full use of the grate area for maximum burning efficiency is assured by Donley's exclusive Heat Spreader.

For safety and efficiency, specify a Donley Incinerator. All parts and detailed drawings are available through Donley Dealers everywhere for installation by local contractors.

Write today for your personal copy of the Donley Incinerator Catalog or see it in Sweet's. 8238-DB

INCINERATOR INSTITUTE OF AMERICA MEMBER

THE Donley BROTHERS COMPANY
13972 Miles Ave. Cleveland 5, Ohio



Long live the beauty of block!—with Dur-o-wal to make it

more than twice as strong!

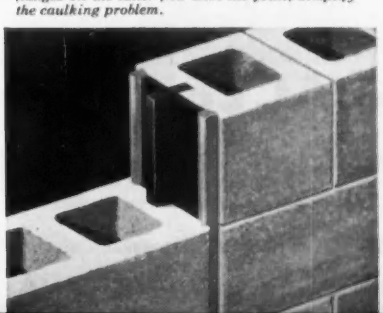
When reinforced every second course with Standard Dur-o-wal, the flexural strength of a masonry wall increases 71 per cent—comparable to other types of reinforcement used every course. But Dur-o-wal can do even better. When Extra Heavy Dur-o-wal is used every course with Class A mortar, flexural strength increases a mighty 261 per cent!

Those are solid facts, established by independent engineering tests and research.

Builders everywhere are relying on Dur-o-wal's trussed design, butt-welded construction, scientifically deformed rods, to give good-looking modern masonry extra years of life. Nationally wanted, Dur-o-wal is nationally distributed. Wherever you build a masonry wall, you can get Dur-o-wal. See us in Sweet's.



Two engineered products that meet a need. Dur-o-wal reinforcement, shown above, and Rapid Control Joints, below. Weatherproof neoprene flanges on the latter flex with the joint, simplify the caulking problem.



DUR-O-WAL®

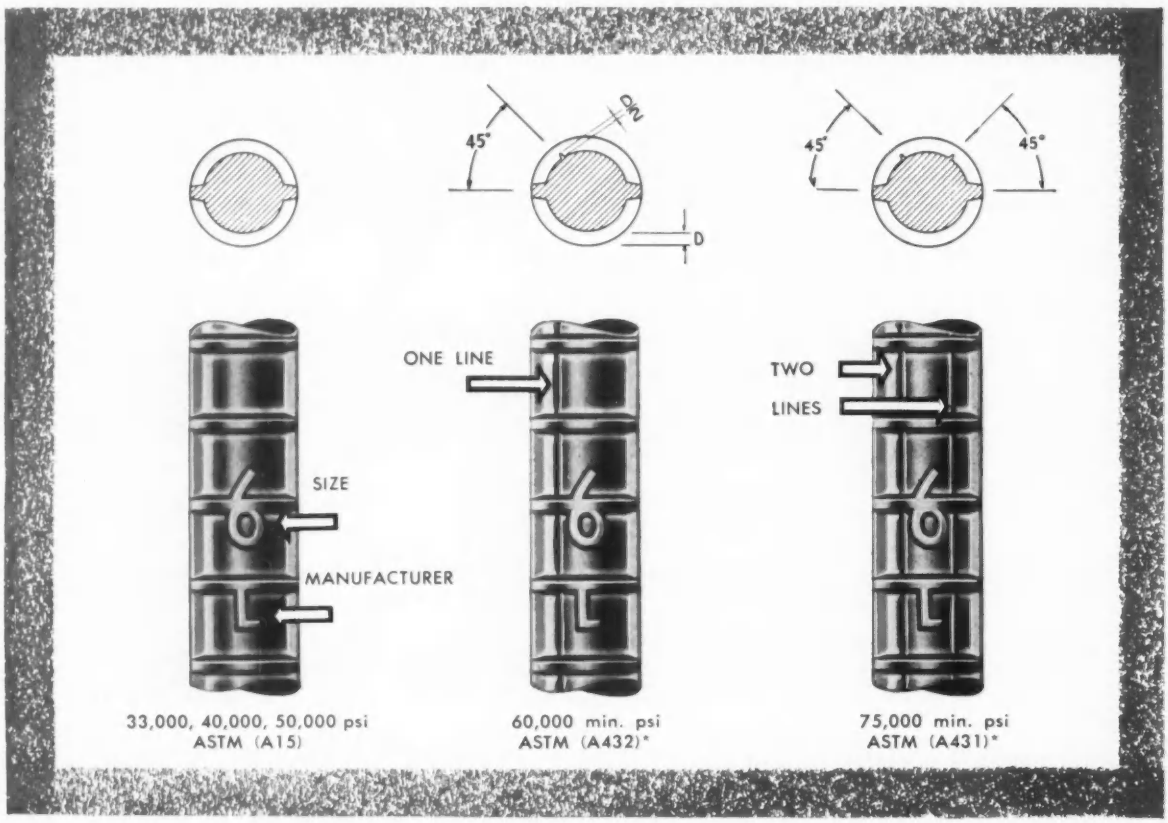
Masonry Wall Reinforcement and Rapid Control Joint

RIGID BACKBONE OF STEEL FOR EVERY MASONRY WALL

Dur-O-waL Div., Cedar Rapids Block Co., **CEDAR RAPIDS, IA.** Dur-O-waL Prod., Inc., Box 628, **SYRACUSE, N. Y.** Dur-O-waL Div., Frontier Mfg. Co., Box 49, **PHOENIX, ARIZ.** Dur-O-waL Prod., Inc., 4500 E. Lombard St., **BALTIMORE, MD.** Dur-O-waL of Ill., 119 N. River St., **AURORA, ILL.** Dur-O-waL Prod. of Ala., Inc., Box 5446, **BIRMINGHAM, ALA.** Dur-O-waL of Colorado, 29th and Court St., **PUEBLO, COLO.** Dur-O-waL Inc., 165 Utah Street, **TOLEDO, OHIO**

NOW...

Every LACLEDE Multi-rib Reinforcing Bar is Marked to Show SIZE and STRENGTH...



Standard high strength steels* permitting greater economy and efficiency in reinforced concrete design under the provisions of the new A.C.I. codes must be **identified.** Recognizing this need, each Laclede Multi-rib reinforcing bar can now be completely identified as to size, strength and origin through a new rolled-in marking system. This assures the designer, contractor, and code writer that the proper grade of reinforcement is used on the job.

Demand these new time-saving Laclede bars for your next construction job.

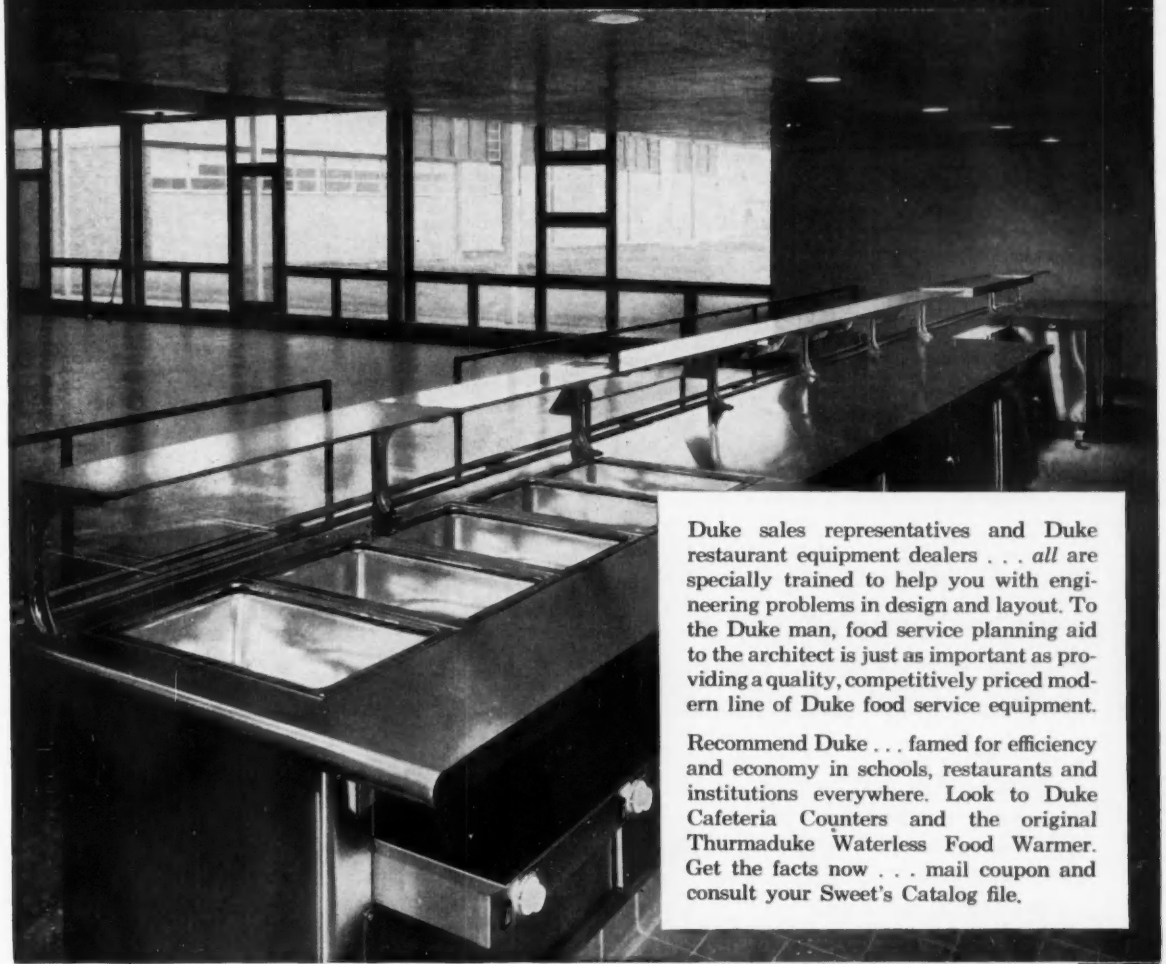
LACLEDE

LACLEDE STEEL COMPANY

SAINT LOUIS, MISSOURI ◆ Producers of Steel for Industry and Construction

DUKE...*Pioneers in Food Service Progress!*

Engineering-minded DUKE dealers know food service design



Duke sales representatives and Duke restaurant equipment dealers . . . *all* are specially trained to help you with engineering problems in design and layout. To the Duke man, food service planning aid to the architect is just as important as providing a quality, competitively priced modern line of Duke food service equipment.

Recommend Duke . . . famed for efficiency and economy in schools, restaurants and institutions everywhere. Look to Duke Cafeteria Counters and the original Thurmaduke Waterless Food Warmer. Get the facts now . . . mail coupon and consult your Sweet's Catalog file.

Duke Cafeteria Counter, St. Thomas Aquinas High School, Florissant, Mo.
Hellmuth, Obata & Kassabaum, Inc., Architects
Frank T. Hilliker and Associates, Food Service Consultants

SEE OUR CATALOG IN SWEET'S
OR WRITE FOR COPY

THURMADUKE

pioneers new ideas in food service equipment

THURMADUKE WATERLESS FOOD WARMERS AND PORTABLE FOOD WARMERS
SERVICE TABLES
CAFETERIA COUNTERS
AEROHOT

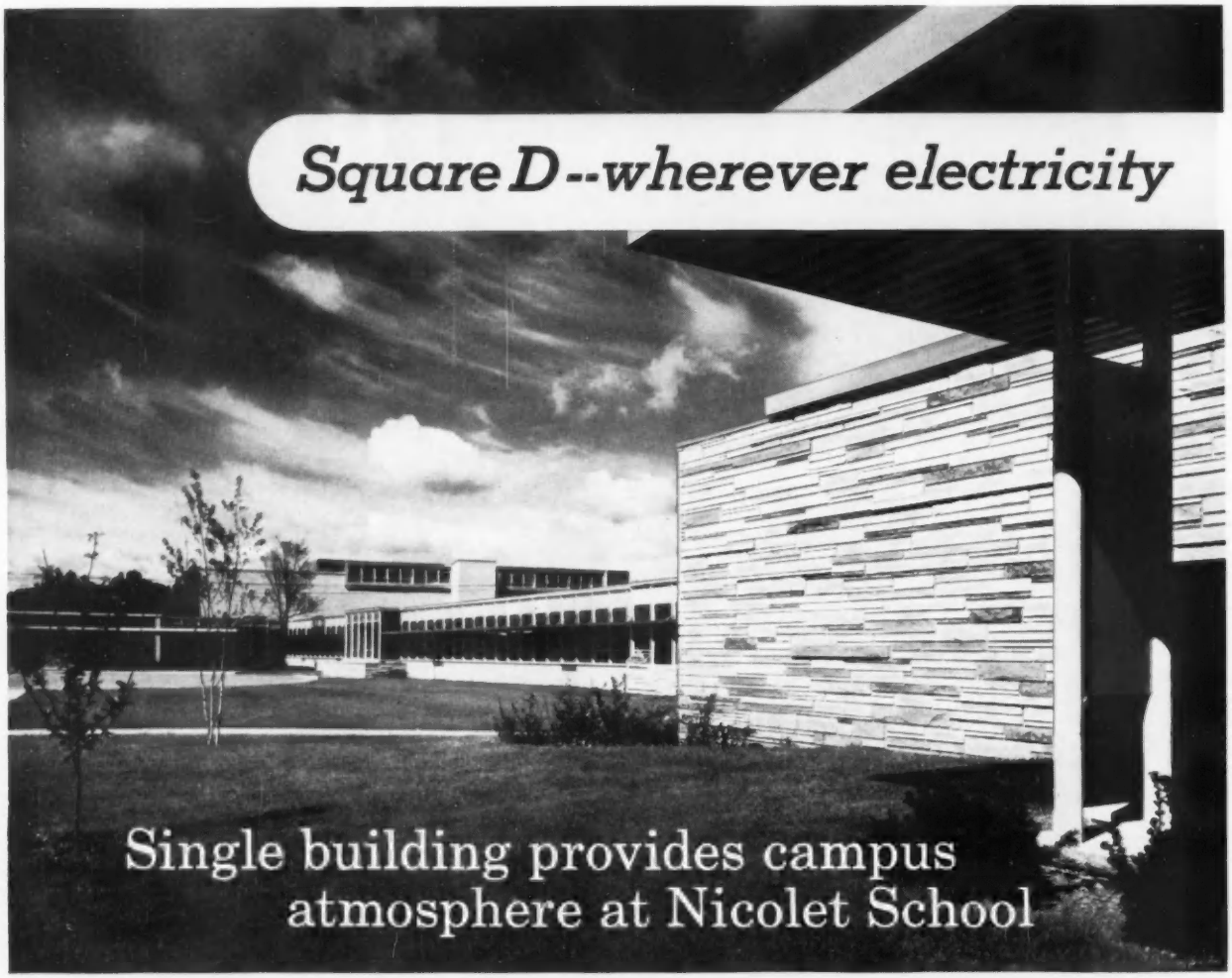
Clip and Mail to: **DUKE Manufacturing Co., Dept. 123**
2305 N. Broadway, St. Louis 6, Mo.

Please send me information and specifications on one or all of following:

☐ Thurmaduke Waterless Food Warmers and Portable Food Warmers ☐ Service Tables
☐ Cafeteria Counters ☐ Low-cost Aerohot Food Warmers and Tables

Are you interested in name of Duke dealer-representative in your area who can help you with food service equipment planning? Check here if you desire this information: ☐

Name_____ Title_____
Firm_____
Address_____
City_____ Zone____ State_____



NICOLET HIGH SCHOOL in suburban Milwaukee is "environment-controlled," achieving the open vistas of a campus with a single-unit building. Various school functions are located along the legs of an irregular "H"—an arrangement having no enclosed courts to interfere with the light, air and natural beauty of the 48-acre site. Horizontal aluminum sun shades and colored plastic louvres eliminate inside shades and venetian blinds—leave classroom views unobstructed.

School activities are grouped by related types, with athletic and shop facilities well removed from teaching areas. Isolation from highways and roads provides the environmental safety of a park. Community use is extensive. Swimming and many other recreational activities make Nicolet an important community center. *Square D electrical equipment is on duty throughout this impressive school plant...further evidence that you'll see the familiar* D *wherever electricity is distributed and controlled.*

FIELD ENGINEERING SERVICE is available to architects and consulting engineers through more than 100 Square D offices, backed by 1000 authorized electrical distributors and 19 plants in the United States, Canada, Mexico and Great Britain

Executive Offices: 6060 Rivard Street, Detroit 11, Michigan

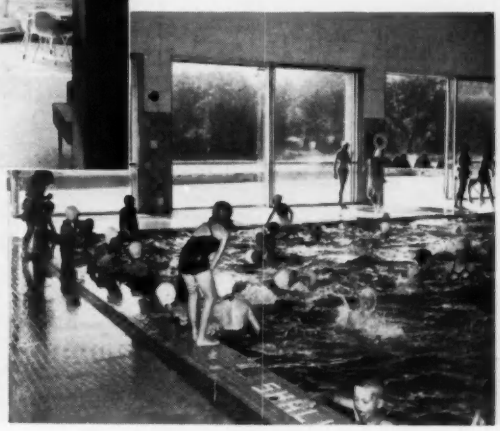
SQUARE D COMPANY

ARCHITECT: *Office of von Grossmann, AIA*
CONSULTING ENGINEER: *Wanty and Associates*
ELECTRICAL CONTRACTOR: *Reliance Electric Company*

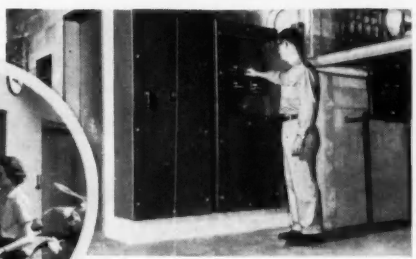
is distributed and controlled



There are no study halls in Nicolet • Instead, the Student Center (*left*) Library, Cafeteria and various classrooms are well located and equipped for study-hall purposes. With its adjoining outdoor terrace, the Student Center provides a quiet, relaxing atmosphere in keeping with the concept of a campus.



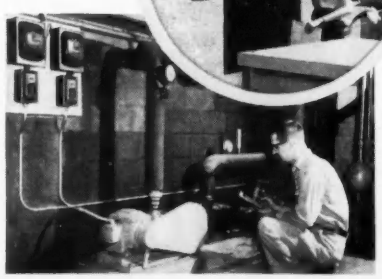
Indoor-outdoor swimming pool is on sunny side of building with adjacent sunbathing terrace. Window wall has double sliding glass doors with heated space between, adapts the pool to both summer and winter use.



One section of the main electrical distribution system utilizing Square D QMB panelboards



Typical Square D lighting panelboard of which there are many throughout the building



Square D switches and starters are used in the control of the various operating functions throughout the building

A *Complete* LINE OF ELECTRICAL DISTRIBUTION AND CONTROL EQUIPMENT

ADJUSTABLE SPEED DRIVES
BUSWAYS & WIREWAYS
CIRCUIT BREAKERS
CONTROL CENTERS
CRANE & HOIST CONTROL
DISTRIBUTION SWITCHBOARDS
ELECTRIC TRUCK CONTROL
HIGH VOLTAGE CONTROL
LAUNDRY CONTROL
LIFTING MAGNETS
LIGHTING AND POWER PANELBOARDS
LIGHTING CONTROL—LOW VOLTAGE
LIMIT AND FOOT SWITCHES
MACHINE TOOL CONTROL
MAGNETIC BRAKES
METER MOUNTINGS
MOTOR STARTERS
PRESS CONTROL
PRESSURE, FLOAT, & VACUUM SWITCHES
PUSHBUTTONS
RELAYS AND CONTACTORS
RESISTORS
SAFETY SWITCHES
SERVICE ENTRANCE EQUIPMENT
STAGE DIMMERBOARDS
STEEL MILL CONTROL
SWITCHGEAR & UNIT SUBSTATIONS
SYNCHRONOUS MOTOR CONTROL
TERMINAL BLOCKS
TEXTILE MACHINE CONTROL
TIMERS
VOLTAGE TESTERS
WELDER CONTROL

DAILY DOUBLE

AT THE BIG

A

AQUEDUCT... *for thoroughbred racing*

AGITAIR... *for perfect air distribution*



Aqueduct Race Track, New York City, N. Y.

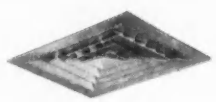
AQUEDUCT, the most beautiful racetrack in the world, offers entertainment before, during and after the races. In the elaborately decorated Club House, dozens of color schemes have been astutely blended into a vast mural with individual appeal.

AGITAIR Stripline slot-type and custom-designed square and rectangular diffusers blend in unobtrusively with the architectural treatment and provide perfect indoor climatic conditions.

Millions of the big "A"—AGITAIR diffusers are today and everyday supplying noiseless . . . draftless air distribution on thousands of applications. For technical information on these products ask your local AGITAIR representative or write direct to Air Devices Inc.



STRIPLINE — Slot Type Diffusers



Square and Rectangular Diffusers

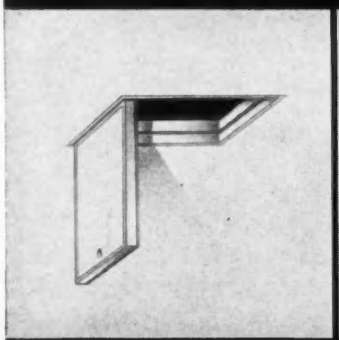
AGITAIR®

GENUINE PRODUCTS
FOR BETTER AIR

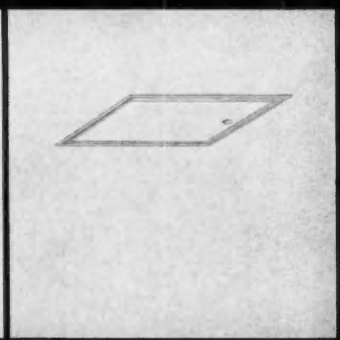
high velocity units . . . air diffusers . . .
registers-grilles . . . filters . . . exhausters

AIR DEVICES INC.
185 MADISON AVENUE, NEW YORK 16, N.Y.

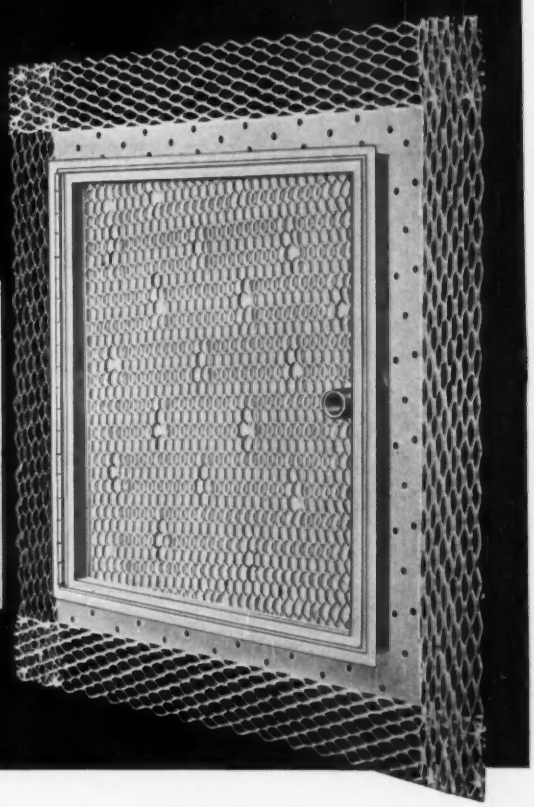
NOW you see it ...now you don't!



door open



door closed



NEW...for acoustical plaster

MILCOR STYLE B ACCESS DOOR

Acoustical plaster is troweled over the recessed door panel and finished flush with the surrounding plaster. When the job is done, you can hardly tell an access door is there. There is no exposed door panel to break the ceiling surface or impair acoustical efficiency.

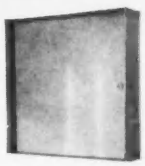
The plaster is securely bonded to the door by self-furring Milcor Furlath welded to the panel. Plaster edges are protected by Milcor No. 66 Casing Bead around the panel's perimeter. The same bead on the outer frame enables the plasterer to get a neat, clean finish with the surrounding plaster area.

Three sizes are available, 12" x 12", 12" x 24", 24" x 24" — for 1", 1⅛", and 1¼" grounds. Catalog 210 describes them. Write for your copy.

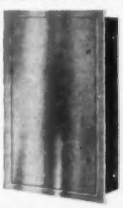
ML-62

MILCOR®

the industry's most complete line of access doors



Style A for standard acoustical tile up to one inch thick.



Style M for masonry, brick, stone, tile, etc. With overlapping flange.



Style K for plastered walls. With expansion wings. Style L, without expansion wings.

INLAND STEEL PRODUCTS COMPANY, DEPT. E, 4033 W. BURNHAM ST., MILWAUKEE 1, WISCONSIN

Member of the INLAND Steel Family

BALTIMORE, BUFFALO, CHICAGO, CINCINNATI, CLEVELAND, DETROIT, KANSAS CITY, LOS ANGELES, MILWAUKEE, MINNEAPOLIS, NEW ORLEANS, NEW YORK, ST. LOUIS

"Only KEYMESH® for stucco

says A. L. BRANDEN of Branden Enterprises, developer of 10,000 home



"We don't buy cheap materials. What you save in first cost, you often lose—and then some—on extra labor and callbacks. That's why I insist that subcontractors working for me use Keymesh as a stucco reinforcing material," reports Alec Lee Branden, Hayward, California.

Mr. Branden finds stucco a quality feature for exterior walls. At Tropicana Village, his latest development, stucco is applied over Keymesh reinforcement. This wall construction helps him maintain a 35-house a day schedule (final plans call for 10,000 homes)—and assures the strength, durability, and fire-safety that owners of Branden-built homes expect. Low initial cost plus highest quality are trademarks of all Branden-built homes.

"I've found that Keymesh gives with the wall, taking up the stretch and contraction that any new home goes through as it settles. With Keymesh, stucco walls show no signs of exterior cracking. Require no callbacks to repair settling cracks. And, being easy to work with, my subcontractors appreciate the way it handles."

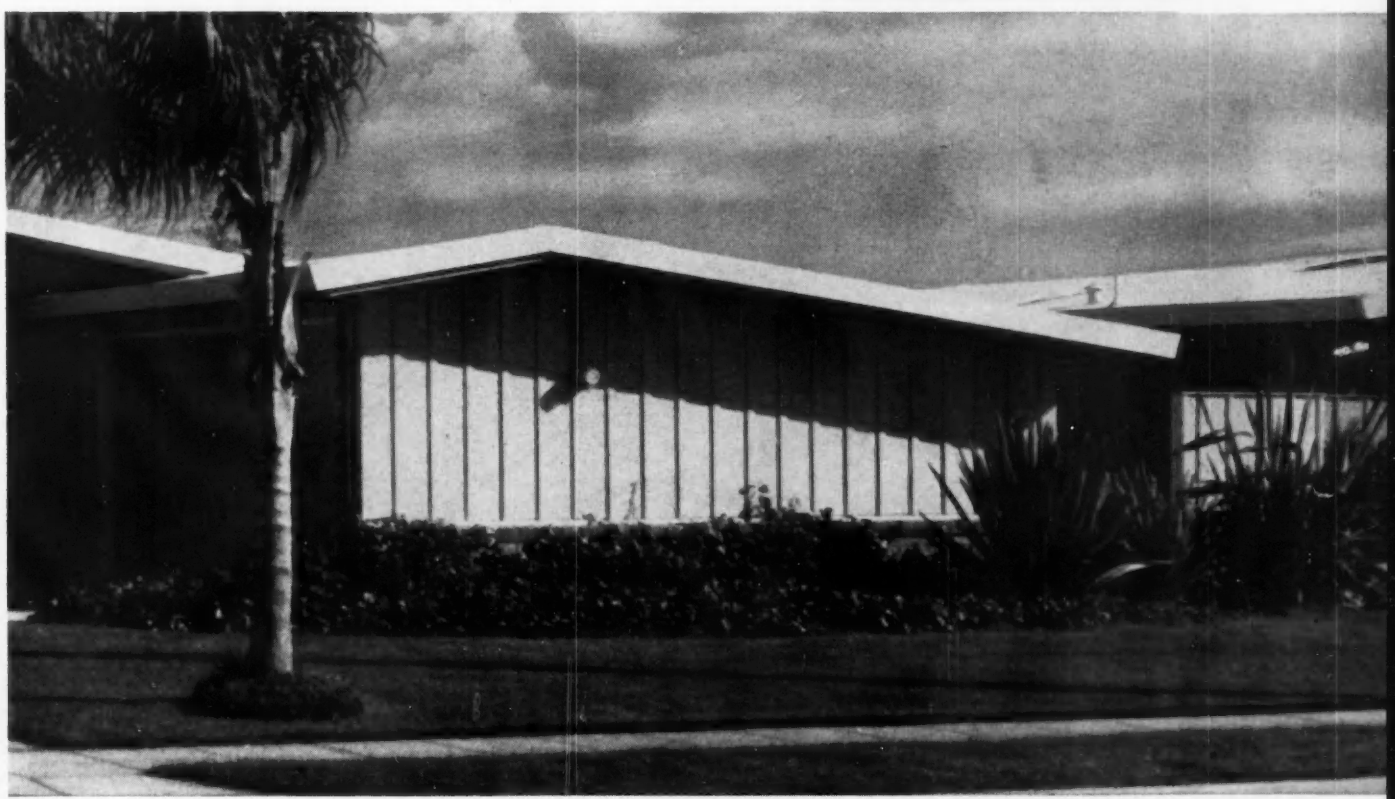
Other use and test-proved products in the Keymesh family of quality plaster reinforcements . . . Keycorner for almost double the crack resistance of plaster corners . . . Keystrip for extra strength at points of maximum stress where flat strip reinforcement is needed.

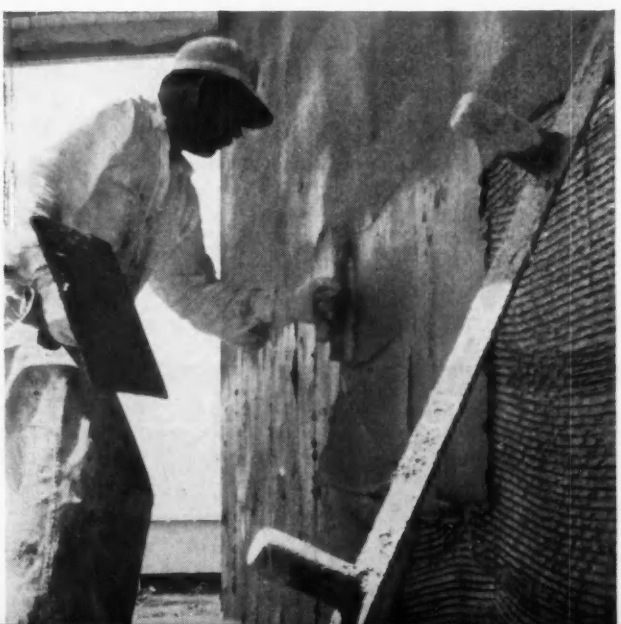
Frank A. Schiro, Plastering Subcontractor, uses 18-gauge Keymesh. Mr. Schiro reports, "I like to use Keymesh because it permits rapid troweling. My workmen easily keep up with construction schedules."

reinforcement"

Tropicana Village, San Jose, California







Send for complete information. Write

KEYSTONE STEEL & WIRE COMPANY

Peoria 7, Illinois

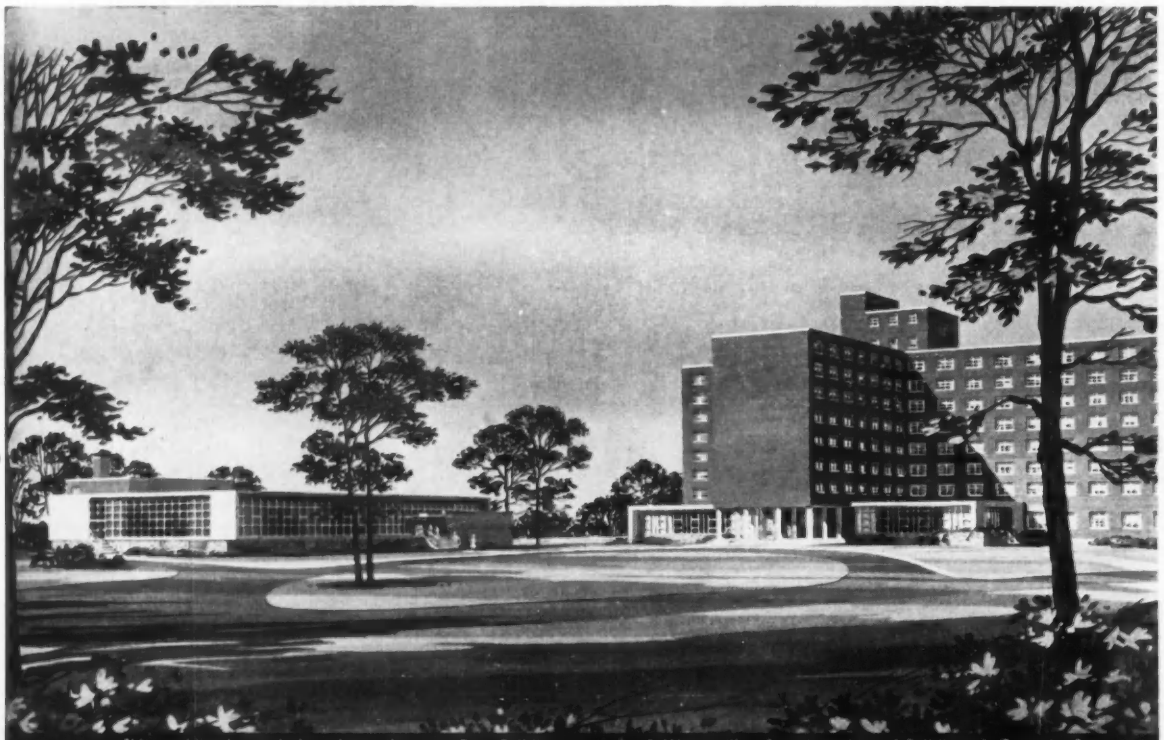
Yes, I would like to learn more about the effective crack resistant qualities of Keymesh, Keycorner and Keystrip reinforcement. Please send me complete test reports and more complete information.

*Name*_____

*Company*_____

*Address*_____

*City*_____ *State*_____



This architect's rendering shows the new Day Building on Mt. Olympus, Syracuse University. Economical heating comfort is maintained in this, and two other new Syracuse dormitory multi-zone units controlled by Sarcotherm hot water control systems. Architects: King & King, Syracuse. Engineers: Robsón & Woese, Inc. Superintendent of Buildings & Grounds, Syracuse University. E. J. Gibbons Mechanical Contractors: (on the Day Building, above, and Sadler Hall) Edward Joy Company, Syracuse, N. Y.; (on the women's dormitory) Mechanical Installations Inc., Ozone Park, N. Y.

FOUR-YEAR PERFORMANCE RECORD LEADS TO 15-ZONE INSTALLATION OF SARCOTHERM HEATING CONTROLS

In 1956 Syracuse University installed a Sarcotherm hot water heating control system in an 8-zone dormitory project. Now four years of flawless operation have demonstrated the ability of the Sarcotherm system to deliver complete control of heating comfort – without any maintenance or repair of any kind. As a result, two new Syracuse dormitories have been built with Sarcotherm systems for a total of 15 zones Sarcotherm-regulated.

In each zone, Sarcotherm provides precise temperature control, fully allowing for occupancy and exposure, obviating the need for costly individual room control. The Sarcotherm system features a three-way valve controlled by an outdoor thermostat, which is highly responsive to temperature changes, solar radiation and wind load. In addition to this method of anticipating weather before it makes its effect felt indoors, the Sarcotherm system utilizes a master indoor control in each zone, which starts to cool the system as correct temperature is being reached.

This absolutely prevents overheating and prevents wasting fuel. All controls are sealed and are tamper-proof. 2702

* *FOR COMPLETE CONTROL SYSTEM CATALOG* write Sarcotherm Controls, Inc., 635 Madison Ave., New York 22, N. Y.

SARCOTHERM CONTROLS

Sarcotherm Controls, Inc., an affiliate of Sarco Company, Inc.

635 Madison Avenue, New York 22, N. Y. • Plant: Bethlehem, Pa.

GRADE WISE
IS PROFIT WISE

"Easiest Way to Save Money I Ever Saw," says Donald Eilertson about "Utility" grade West Coast framing lumber. *



"It's good management to specify and use Utility grade framing lumber," says Builder Donald Eilertson. "By taking advantage of the economies offered by Utility dimension and boards, I save a minimum of $200.00 on every house job and maintain my reputation for quality construction."

Here is another builder of distinctive homes who depends upon the consistent quality of West Coast "Utility" grade lumber for a profit. You, too, will find "Utility" grade saves money in applications such as these:

Douglas Fir		West Coast Hemlock	
*Floor Joists		30 lb. live load*	40 lb. live load†
2x6	16" o.c.	7'-2"	6'-4"
2x8	16" o.c.	10'-8"	9'-6"
2x10	16" o.c.	14'-8"	13'-0"
2x12	16" o.c.	17'-0"	15'-4"

*sleeping rooms only
†other than sleeping rooms

Other specific applications for "Utility" grade: rafters for light roofing*, flat roof joists*, ceiling joists*, floor joists* and boards* for sheathing, sub-floors and solid roof boarding.

**When used in accordance with FHA Minimum Property Standards for One and Two Living Units, FHA Bulletin No. 300.*

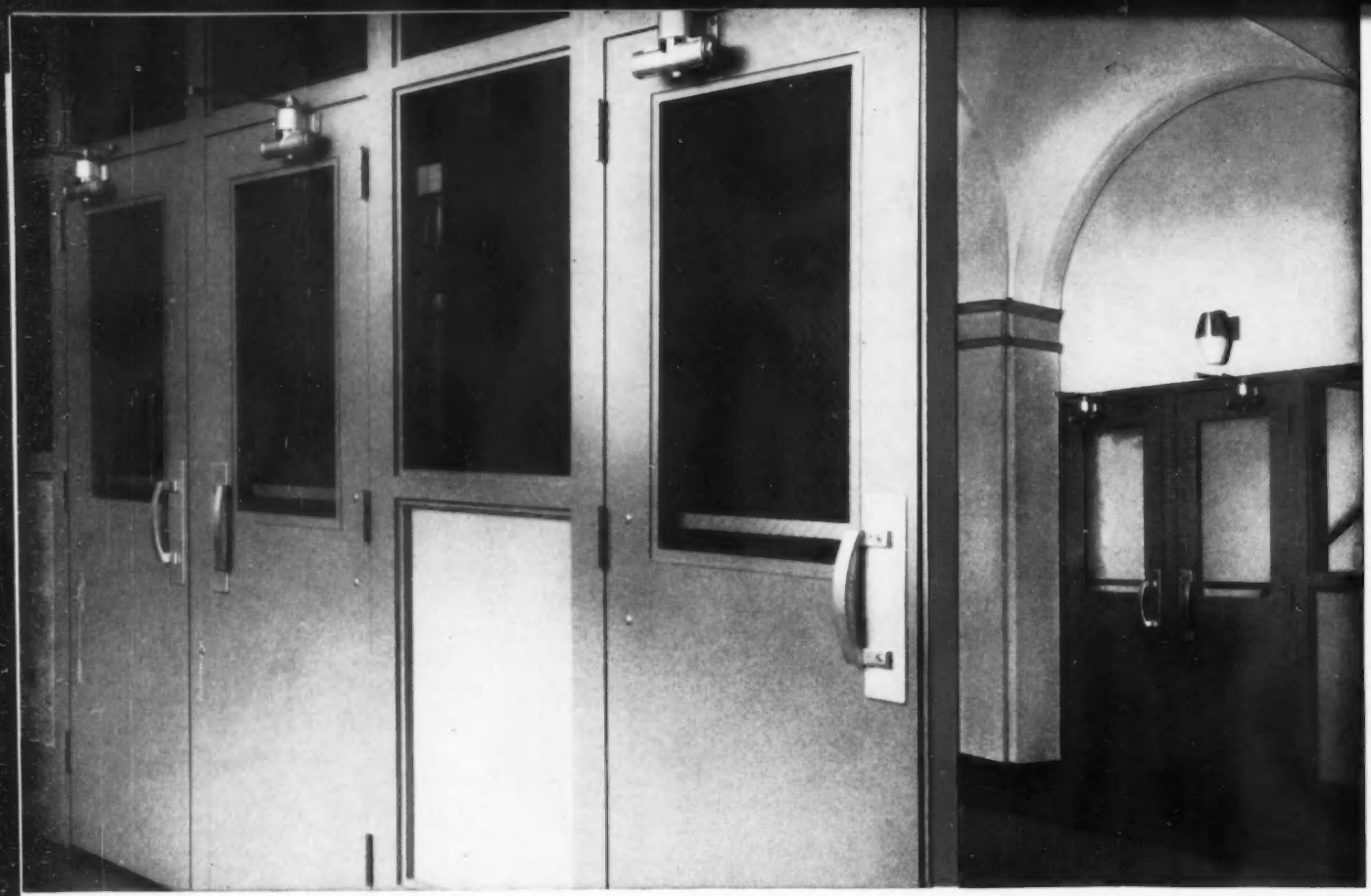
WEST COAST LUMBERMEN'S ASSOCIATION
1410 S. W. Morrison St., Portland, Oregon

Please send me your booklet "Where to Use Utility Grade West Coast Lumber".

Name_____

Address_____

City_____ Zone____ State_____



Smoke barriers, specified from the **Aetnapak**® catalog of stock components, enabled Troup Junior High School and 18 other New Haven, Conn. schools to quickly comply with fire code regulations. For the

AETN

DISTRIBUTED THROUGHOUT THE UNITED STATES* AND CANADA BY UNITED STATES PLYWOOD CORPORATION.

*With the exception of the Metropolitan New York area.

Aetna Steel Products Corporation, 730 Fifth Avenue, New York 19.



CONTRACTOR: R. A. CIVITELLO COMPANY • ARCHITECT: LESTER J. A. JULIANELLE

70-foot-long smoke screen-stairwell enclosure shown above, **Aetna** Steel delivered frame sections, doors and hardware within a week. No special engineering drawings or custom production were required.

AETNAPAK®

AETNA STEEL PRODUCTS CORPORATION
730 Fifth Avenue,
New York 19, N. Y.

Please send free catalog of AETNAPAK custom-quality, in-stock steel doors, frames and hardware.

Name and Title _____

Company Name _____

Address _____

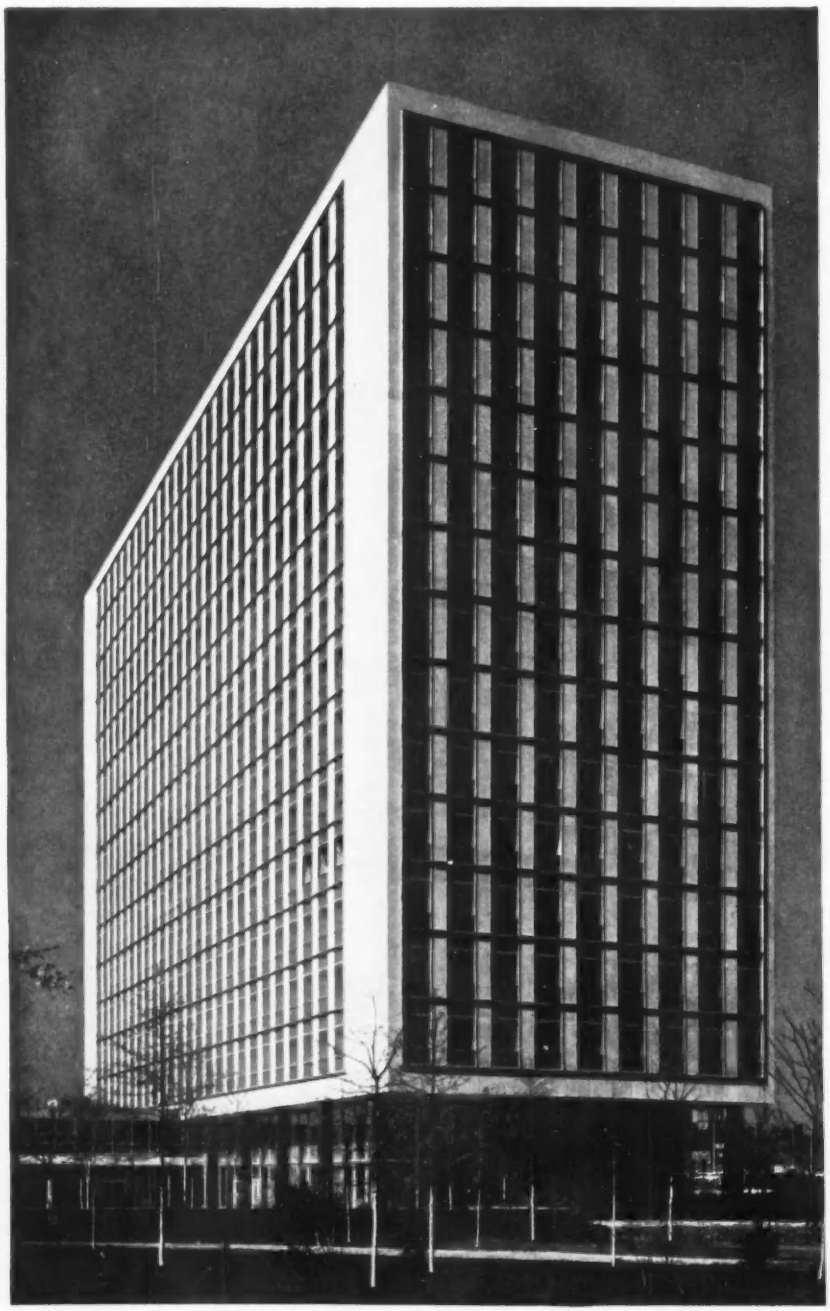
City _____ State _____

Write for complete **Aetnapak®** catalog:

Architects for

AMERICA'S NEWEST STATE OFFICE BUILDING

select AIRCOUSTAT®



MARYLAND STATE OFFICE BUILDING, Baltimore, Maryland: Fisher, Nes, Campbell & Associates—The L. P. Kooken Company, ARCHITECT—ENGINEER; Blake Construction Co., Inc., GENERAL CONTRACTOR; H. Walton Redmile & Associates, CONSULTING ENGINEER; H. E. Crook Co., Inc., MECHANICAL CONTRACTOR

AIRCOUSTAT sound traps are the architect's first choice for America's newest buildings. AIRCOUSTAT is quickly and easily selected and gives guaranteed silencing of duct-transmitted noise of all frequencies. AIRCOUSTAT meets both acoustical and air flow requirements . . . is fire-resistant, dust-proof and maintenance-free. Write for your copy of the AIRCOUSTAT *Selection Manual,* a quick guide to selecting the right unit or combination of units for any application. Send your request today to: KOPPERS COMPANY, INC., 3005 Scott Street, Baltimore 3, Md.

KOPPERS

SOUND CONTROL

METAL PRODUCTS DIVISION

Engineered

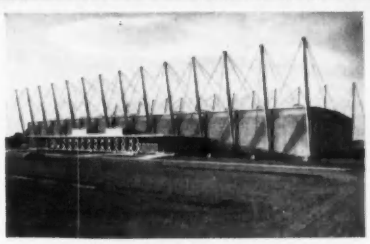
Products Sold with **Service**

Suspended Roof for New College Gymnasium



"Column-free on the inside" is the way the architect describes this exciting and wholly utilitarian structure. It is the Physical Education Building of the Central Washington College of Education, Ellensburg, Washington. It is 150 ft wide by 390 ft long and contains, among other things, a main gymnasium, upper gymnasium, field house, swimming pool, apparatus room, two four-wall handball courts, two classrooms, 14 offices and, locker rooms, dressing rooms, etc.

The suspended roof is actually floating, being slip-fastened to the exterior walls. There are twenty-eight 80-ft high prestressed concrete pylons. Each supports two pairs of 1-5/16 in. prestretched, galvanized bridge strands, which suspend the entire roof structure. The 56 cables, averaging 404 ft in length, were prestretched and accurately marked for all attachment points at Roebling's plant. This resulted in an easy, economical field erection procedure.



Spectacular new Health and Physical Education Building, Central Washington College of Education at Ellensburg, Washington.
Architect: Ralph Burkhard, A.I.A., Seattle
Structural Engineers: Anderson, Birkeland, Anderson, Tacoma
General Contractor: Earley Construction Company, Tacoma
Prestressed Concrete Fabricator: Concrete Technology Corp., Tacoma

Its 99,500 sq ft of floor space cost $14.15 per sq ft, including architect's fee and 4% sales tax, which is below average for a building of this size.

These basic details are indicative of the wide and varied benefits common to all suspended roof structures. Airline terminals and hangars, plants, gymnasiums, civic auditoriums – all are enjoying the free space afforded by suspended roofs.

Roebling's great experience with steel in tension leads naturally to its active role in the suspended roof field. Our findings, theories and interest in its every phase are offered to you at any time. Should you wish further details on this particular structure, or information of any nature dealing with suspended roofs, please do not hesitate to write Roebling's Bridge Division, Trenton 2, New Jersey.

ROEBLING
Branch Offices in Principal Cities
John A. Roebling's Sons Division
The Colorado Fuel and Iron Corporation

FLOOR
IT
WITH

FIAT®

PRECAST TERRAZZO SHOWER FLOORS

BUILD BETTER SHOWERS FOR LESS

It's easy to see *why* Fiat PreCast terrazzo floors make top-quality showers so simple to install. Compared with the old piece-by-piece cut-and-try subpan, mortar and tile construction, you're way ahead . . . and supplying a much better shower!

The one-piece, PreCast terrazzo slab simply slides into place. Caulk the drain . . . just one connection . . . and there you are. Since there are no joints to open . . . no possibility of the floor leaking . . . there is nothing to create call backs.

It's a one-trade installation . . . a simple plumbing job . . . so you cut costs substantially. Yet, the black and white marble chips set in the pure white cement of the terrazzo floor proclaim the fine quality of the installation.

FIAT . . . FIRST IN QUALITY SINCE 1922 . . . PACKAGED SHOWERS • FLOORS • DOORS / TOILET ROOM ENCLOSURES

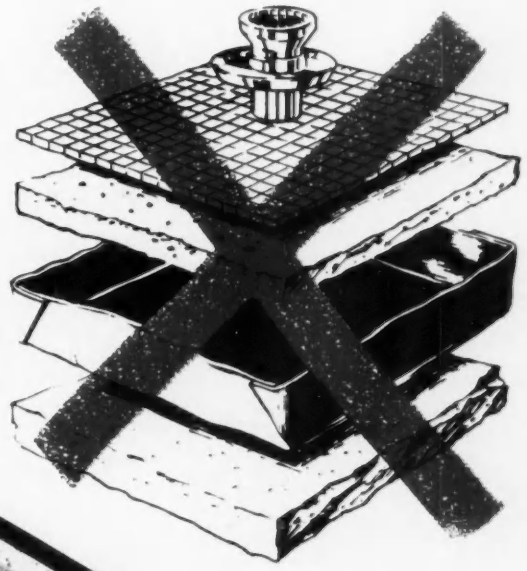
EASE OF INSTALLATION SAVES TIME—MONEY—TROUBLE







....and forget it!



And Forget This Too! This nightmare-sandwich of piecemeal construction not only takes three trades to install but invites future trouble . . . call backs that can sour the sale. Fiat PreCast Terrazzo Floors out-date this method . . . save trouble, expense, headaches!



This sparkling Fiat PreCast Terrazzo Shower Floor includes integral threshold and curb in a single unit. Eliminates threshold construction, the most expensive step in building showers. Guarantees a perfect floor.

5

Strategically located plants for fast delivery at lower cost!
Plainview, Long Island, New York; Franklin Park, Illinois; Los Angeles, Calif.; Albany, Georgia; Orillia, Ontario, Canada



Send For Free Folder —get the full story about FIAT PreCast Terrazzo Shower Floors.

FIAT

FIAT METAL MANUFACTURING COMPANY
9301 Belmont Avenue, Franklin Park, Illinois

Please send me your PreCast Terrazzo Shower Floor Folder.

*Name*_____ *Position*_____

*Company*_____

*Address*_____

*City*_____ *Zone*____ *State*_____

CORBIN "HID-N-RAIL" DOOR CLOSERS

Completely Unobtrusive

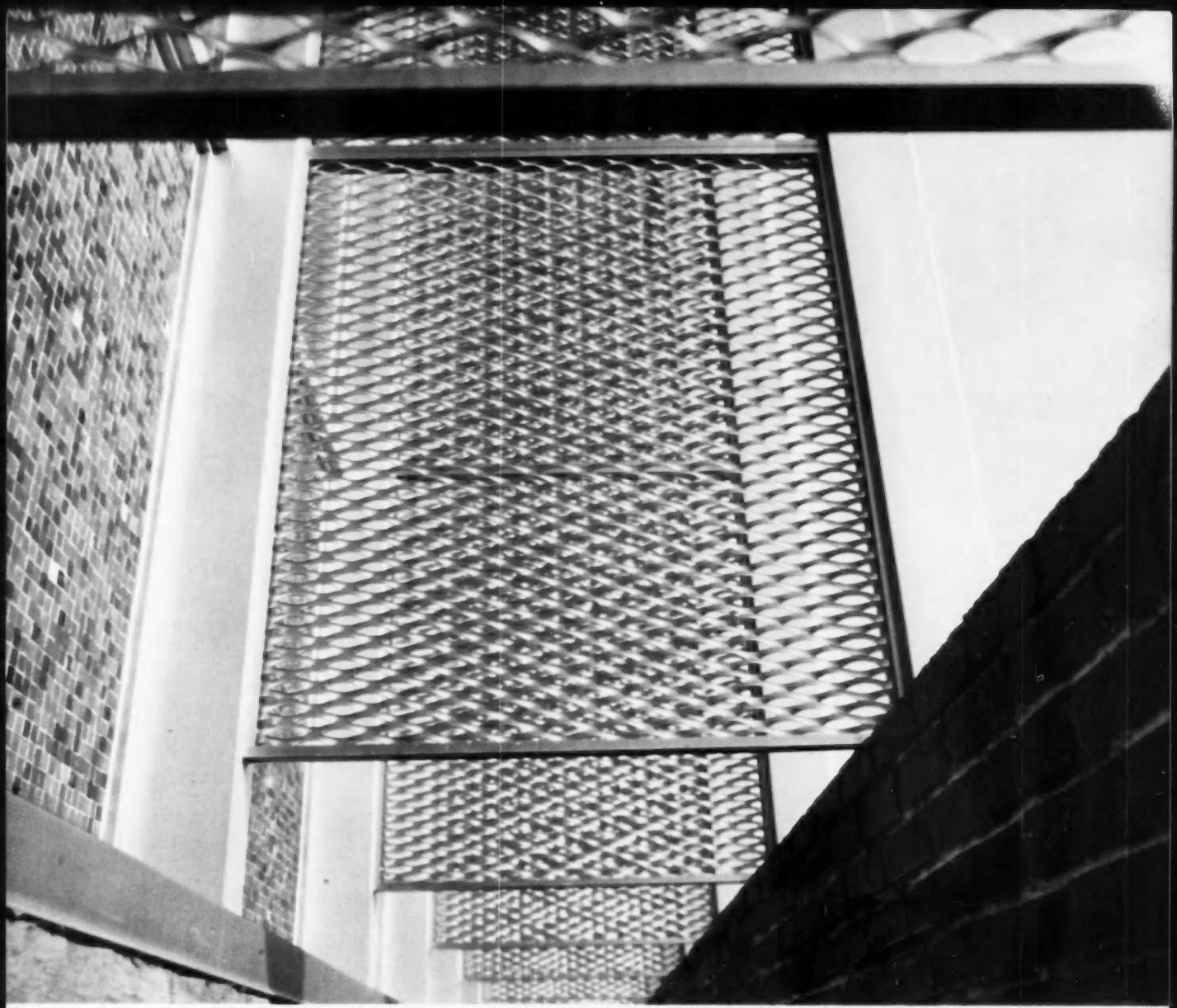
- One Mortise Location for Uniformity
- Controlled Speed and Latching Power
- Adjustable Back Check Control

CORBIN®

UNIFORM MORTISE INSTALLATION

Four sizes . . . for interior and exterior use . . . swing up to 180° . . . hold-open and nonhold-open . . . variety of arms available to meet all conditions . . . choice of prime coat, sprayed . . . or subdued metallic finishes.
See Sweets File for additional information.





Light, bright Alcoa Aluminum puts the accent on youth

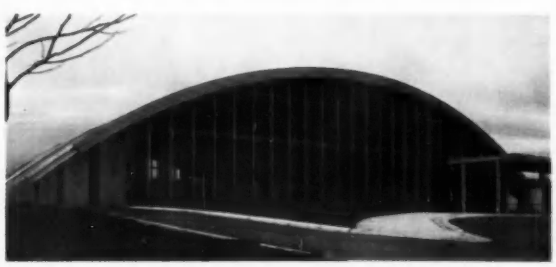
Everyone agreed: the first prerequisite for youngsters at play in Dearborn's new Youth Center was plenty of light. Not light at *any* price, but natural daylight economically stripped of its dazzling glare.

So, for the windowed west wall of the large general activities room, the architects designed an attractive and highly effective aluminum solar shade. Louvers of Armour Weave* expanded metal, manufactured from gold-anodized Alcoa 4010 sheet, were mounted at right angles to the glass and attached to vertical aluminum supports. By dispersion and reflection they take the shine out of sunshine while admitting bright, glareless light.

Economical? In more ways than one! Aluminum's proverbial lightness—its ease and speed of erection—its famous freedom from upkeep—its unmatched ability to retain its youthful good looks year after year—all contribute substantially to savings in building, maintenance and replacement costs.

Look to Alcoa for the latest developments in architectural applications of aluminum. As the pioneer and leader in this field, Alcoa is pre-eminently qualified to help you. Contact your Alcoa sales office for more information, or write Aluminum Company of America, 1823-E Alcoa Building, Pittsburgh 19, Pa.

*Trademark of United States Gypsum Co.



BUILDING: Youth Center, Dearborn Civic Center, Dearborn, Mich. ARCHITECT: Harley, Ellington & Day, Inc., Detroit, Mich. GENERAL CONTRACTOR: Pulte-Strang, Inc., Ferndale, Mich. ALUMINUM SUBCONTRACTOR: Michaels Art Bronze, Covington, Ky. EXPANDED METAL: United States Gypsum Co., Chicago, Ill.

ALCOA ALUMINUM

...THE ARCHITECT'S METAL!



AT LAST YOU CAN PLAN 12-MONTH HOME AIR CONDITIONING WITH THE

NEW CARRIER AUTOMATIC AIR PURIFIER

THE PROBLEM: True air conditioning should provide complete control of temperature, humidity, and air purity, every season of the year. Systems using conventional equipment have not been able to meet these demands.

THE SOLUTION: Carrier has developed a remarkable new kind of Automatic Air Purifier, designed for attachment to any forced air heating or cooling system.

THE RESULT: Now, for the first time, you can offer your clients a practical way to purify the air they breathe. The new Carrier Automatic Air Purifier not only removes dust, odors and pollen from indoor air, it also adds controlled moisture to prevent irritation by bone-dry air in winter. And it's self-cleaning. The filtering element is bathed every 20 seconds with Carrex, a special purifying fluid, to eliminate the dirt deposits which would necessitate frequent changing of filters.

The Carrier Automatic Air Purifier costs about $250, when installed as part of a new forced air system. For further information about this key to 12-month home air conditioning, call your Carrier dealer, listed in the Yellow Pages. Or, write to Carrier Corporation, Syracuse 1, New York.



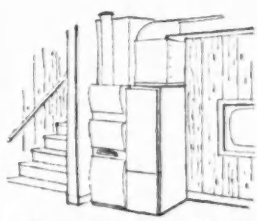
12-month air purification. Pollen and many other harmful elements are continuously removed from indoor air by this revolutionary new air purifier, for better indoor health.



12-month cleanliness. The new and unique, self-cleaning filter operates at constant efficiency. Homes stay cleaner, furniture and draperies stay fresher, because there's less dust.



12-month odor removal. The Carrier Automatic Air Purifier whisks away lingering cooking and other household odors. Indoor air is always fresh and pleasant for family and guests.



Compact as a modern furnace. The Carrier Air Purifier (unit on right) replaces the return air duct of a downflow furnace and uses little more space than an ordinary heating plant.

MORE PROOF OF
BETTER AIR CONDITIONING FOR EVERYBODY EVERYWHERE

Carrier



infrared inferno!

This is the continuous baking oven at Weis where freshly enameled panels and other components move by conveyor through 150 feet of infrared heat that gives them their uniformly hard and durable finishes. Temperature throughout the cycle is automatically controlled for maximum effectiveness. Raw materials to finished product, Weis toilet compartments and cabinet showers benefit from the finest workmanship and best modern processes available. That's why Weis is specified for America's most important buildings. Your Weis representative will be happy to provide complete details, or send coupon below.





WEIS

TOILET COMPARTMENTS AND CABINET SHOWERS

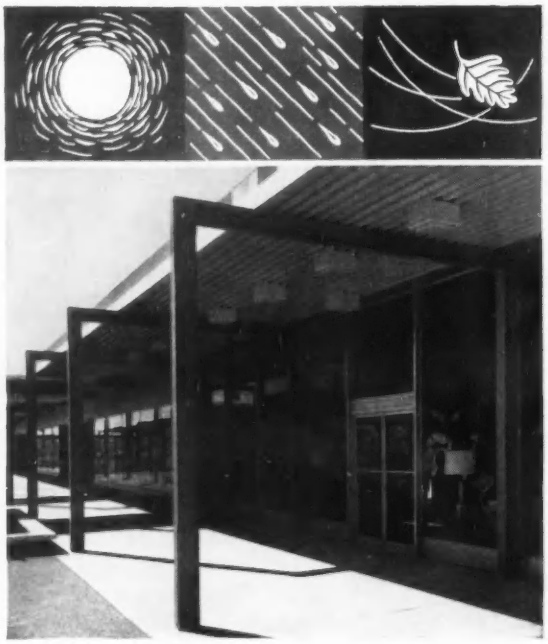
HENRY WEIS MANUFACTURING CO., INC.
Dept. K-1302, Elkhart, Indiana
Please send information on Weis toilet compartments and cabinet showers.

name

firm/school

address

city, state



12,800 SQ. FT. OF PLATE GLASS

KEPT WEATHER-TIGHT WITH NEOPRENE The new Camp Hill shopping center near Harrisburg, Pa., has 27 units, a large supermarket, and a department store. An important design element here is plate glass . . . 12,800 square feet of it. Gaskets of Du Pont neoprene give the plate glass a lasting weather-tight seal.

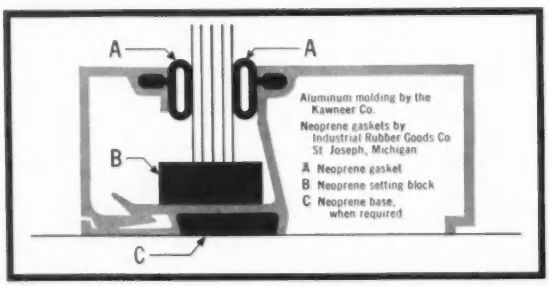
Neoprene gasketing was inserted into the extruded aluminum moldings by the Kawneer Co. of Niles, Michigan, manufacturers of the moldings. The assembly is a stock Kawneer glass holding sash. These prefabricated window moldings were delivered to the job site in 21-foot straight sections. They were then cut to size, drilled and screwed to the frames. Thus costs were reduced by eliminating separate installation of gaskets, and correct glazing insured.

Neoprene gasketing has answered many architectural problems because it has resilience, mechanical strength, and resistance to sun, ozone, rain, wind and temperature extremes. Our booklet, "Neoprene Gaskets for Curtain Walls," gives further information. For your copy, write: E. I. du Pont de Nemours & Co. (Inc.), Elastomer Chemicals Department AR-5, Wilmington 98, Delaware.

DU PONT NEOPRENE SYNTHETIC RUBBER

REG. U. S. PAT. OFF.

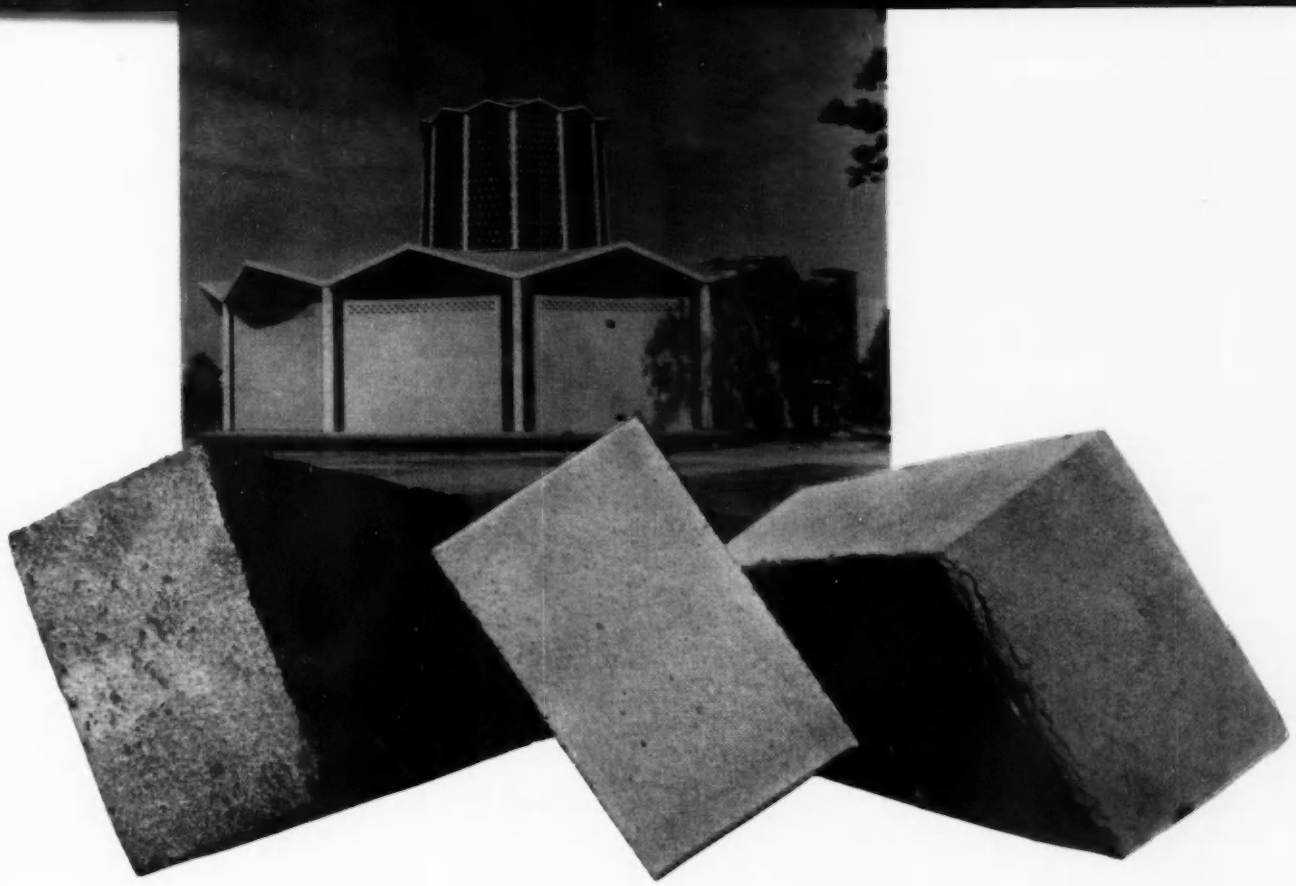
Better Things for Better Living . . . *through Chemistry*



QUICK FACTS ABOUT NEOPRENE

Resilience. Neoprene gaskets accommodate horizontal and vertical expansion of glass and metal panels. Properly compounded neoprene resists permanent deformation, stays weather-tight and serviceable for decades, needs no maintenance.

Weather Resistance. Neoprene remains an effective, resilient gasketing material at temperatures ranging from −40° to 200° F. This versatile synthetic rubber also resists ozone, sun, airborne chemicals, wind and rain.



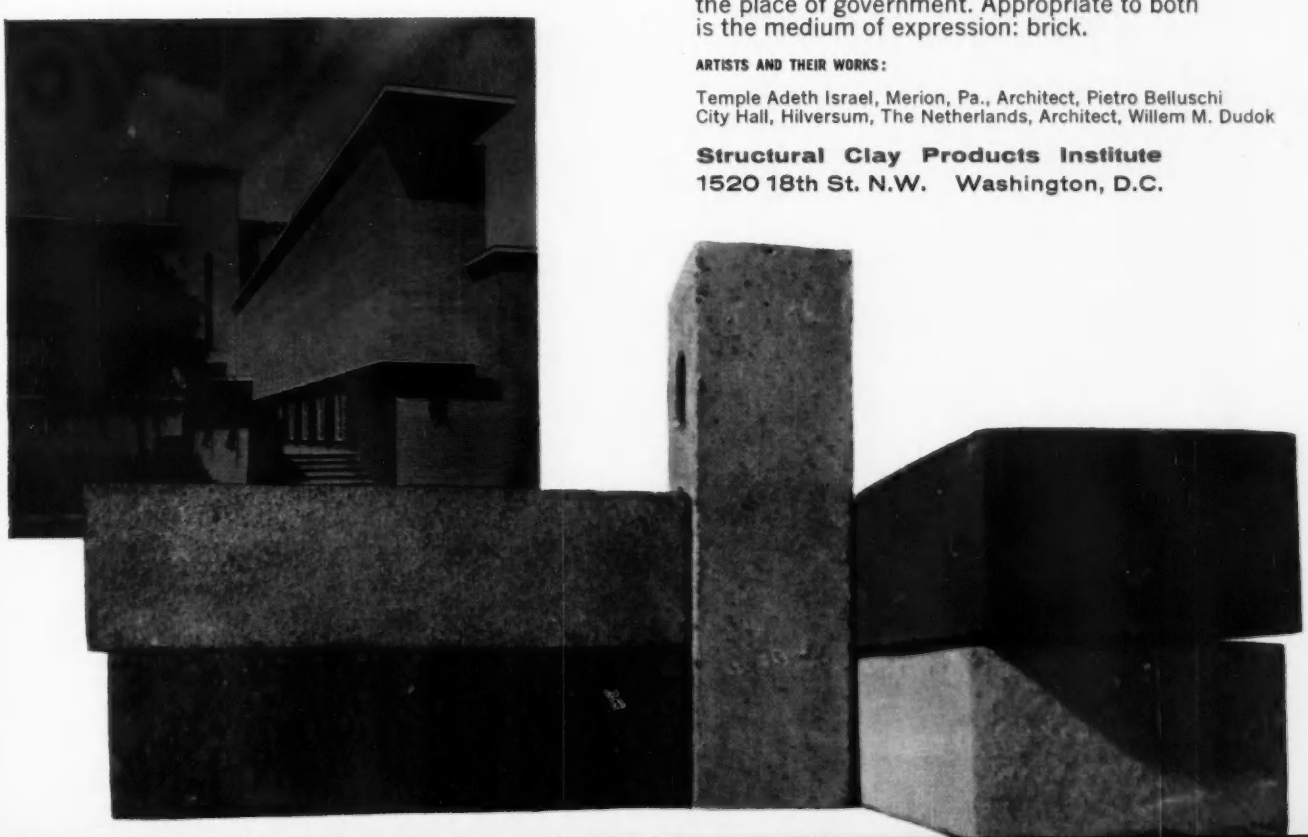
Modernity Through Masonry

The inspiration of the artist and the skill of the craftsman find distinguished expression in the place of worship and the place of government. Appropriate to both is the medium of expression: brick.

ARTISTS AND THEIR WORKS:

Temple Adeth Israel, Merion, Pa., Architect, Pietro Belluschi
City Hall, Hilversum, The Netherlands, Architect, Willem M. Dudok

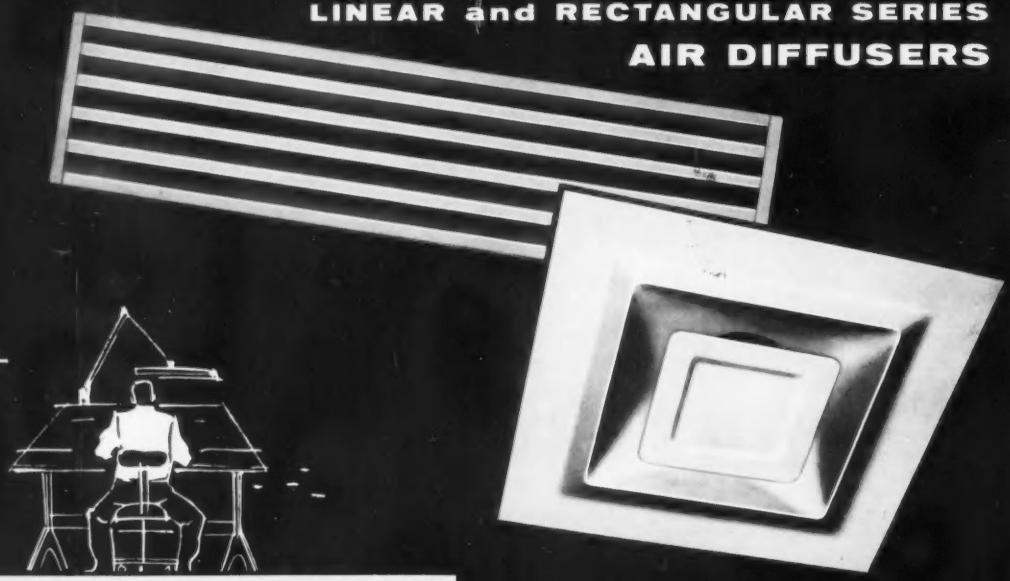
Structural Clay Products Institute
1520 18th St. N.W. Washington, D.C.



function-perfect . . . . fashion-right

the kno·draft® "ARCHITECTS' GROUP"

LINEAR and RECTANGULAR SERIES AIR DIFFUSERS

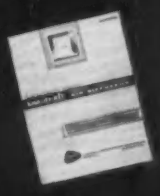


As the name explicitly implies, the "Architects' Group" provides architects, engineers, and their customers with a comprehensive line of air outlets that combines the best air distribution with graceful, unobtrusive modern styling.

Especially designed to complement the essentially rectilinear pattern of interior architectural schemes, the "Group" consists of three series—squares, panels, and long-slotted, or linear. To satisfy different structural or functional demands, each series is available in several types . . . and each type can be furnished with all optional accessories necessary to meet any air diffusion requirement.

Select confidently from the Connor "Architects' Group" . . . function-perfect, fashion-right. Representatives in principal cities.

CONNOR . . . for Constant Comfort Conditions



Request—on your letterhead, please—our new "Architects' Group" bulletin, K-27A.

CONNOR ENGINEERING CORPORATION

DANBURY • CONNECTICUT

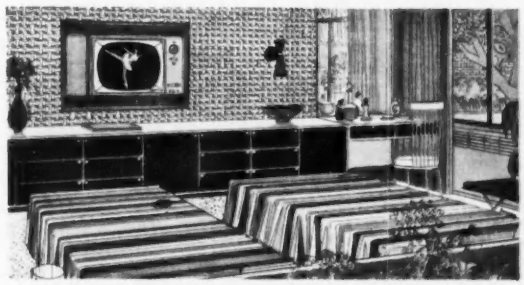
CONNOR ENGINEERING CORPORATION

kno·draft® air diffusers

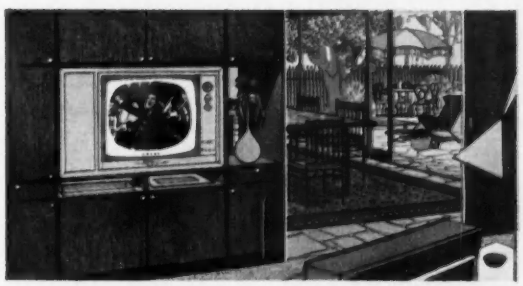


COMPLETE HOME ENTERTAINMENT..."In the wall, off the floor, out of the way!" Here the magic of Color TV is combined with the finest pushbutton Radio-"Victrola"® High Fidelity Stereo. 4-speed record changer slides out for easy loading ... plays all records. Stereo AM-FM Tuner, visual Stereo Balance Control, 2-in-1 supercharged chassis with 58 watts of power. Shown is Model BK-2 with DK-109 Panoramic Sound 3-speaker units.

(®RCA Trade Mark for Record Players)



B&W "MURAL TV"... Front-ventilated Model DK-103. The custom TV look plus the convenience of "Wireless Wizard" remote control. Superb performance—25% brighter picture... 3-speaker Panoramic Sound. Rear-ventilated model available.



"LIVING COLOR" MURAL TV... Like 2 sets in one, build in the magic of Color TV and get superb B&W reception too. Simplified color-quick tuning (new wireless remote control available), mirror-sharp picture, 3-speaker Panoramic Sound, adaptable for stereo. Above: The DK-107 Frame for rear ventilation. Front-ventilation design also available.

Year's best new idea for selling homes...

"MURAL TV" and STEREO BUILT-INS BY RCA VICTOR CONVERT LOOKERS INTO BUYERS

Many successful tract developers are now selling from model homes with RCA Victor "Mural TV" and Stereo Built-ins. The same is true with smaller builders of custom homes.

It is significant that most of these builders are installing *Color TV*, alone or in combination with stereo. Why? Most home buyers feel that Color TV is the coming thing, yet many hesitate to buy right now. But when you show it built into a home they can afford, the bars are down and they "have to have it." It's the *extra value* that wins over competition.

RCA Victor Built-in units are engineered for the top performance and dependability that the public expects from RCA Victor. They are available in a complete line of fashion-leading styles ... expressly designed for simple installation into walls, permanent room dividers, or in cabinets and closets.

Experienced RCA Victor sales engineers are ready to discuss plans, models and costs with you. Send coupon today!

RCA VICTOR
Tmk(s)®

The most trusted name in Electronics

RCA Sales Corporation
Box 1226—A-4
Philadelphia 5, Pa.

Please send full information on RCA Victor "Mural TV" and Stereo Built-ins.

Name_____ Title_____

Company_____

Street_____

City & State_____

Custom school installations by *St. Charles*

Specified by:

Chester L. Carjola, San Marcos H. S.
Arendt, Mosher & Grant, La Colina J. H. S.
George J. Adams & William E. Brown, Bishop Garcia Diego H. S.

...in Santa Barbara, California



Food



Science



Arts and Crafts



Clothing



Clothing

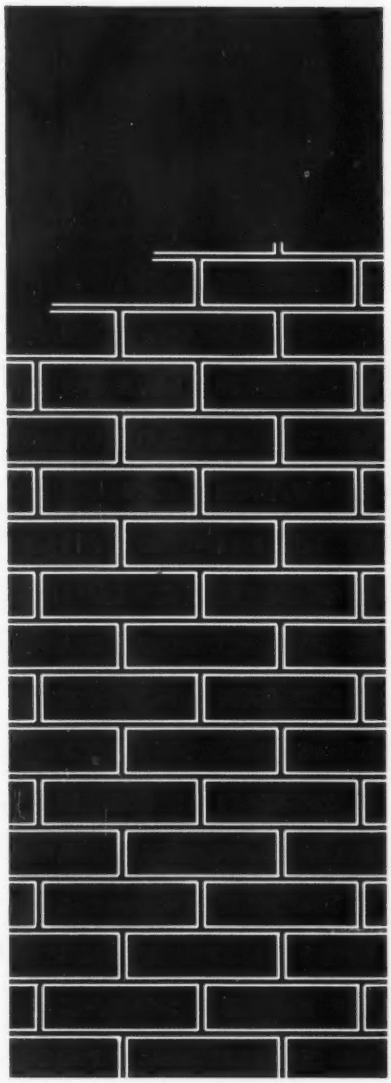
The beauty of these installations reflects the built-in St. Charles quality that means long-range economy, even under extremely hard usage. And St. Charles' custom-flexibility provides vital design-freedom . . . permitting each installation to meet each individual teaching requirement.

Write for free catalog: "St. Charles Custom School Storage Furniture." Available at request on your letterhead. St. Charles Manufacturing Company, Dept. ARS-5, St. Charles, Illinois



St. Charles
Custom School Storage Furniture

School Storage Furniture for Food, Clothing, Science Labs · Arts & Crafts · Elementary Classrooms

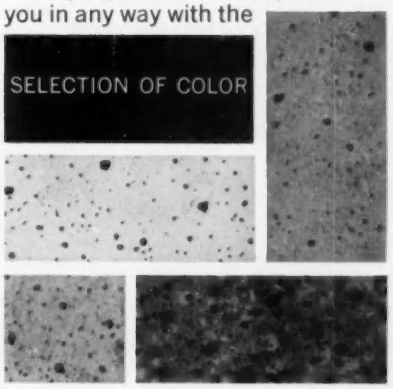


HANLEY IS COLOR!

IN ARCHITECTURAL DESIGN ...

color is certainly one important factor, and Hanley Company offers you building materials (Duramic® Glazed Brick and Duramic® Glazed Structural Facing Tile) that meet this important consideration. Our color specialists have developed an excellent range of true colors to meet your most exacting specifications. Standard colors run from rich solids to beautiful pastels . . . some with speckle, mottled or matte finish . . . there are 49 in all. ■ Design with the knowledge that here is a material that will not fade, is self cleaning, made from the finest Pennsylvania clays, and in the widest range of colors. Our sales people will be happy to assist you in any way with the

SELECTION OF COLOR



HANLEY COMPANY,

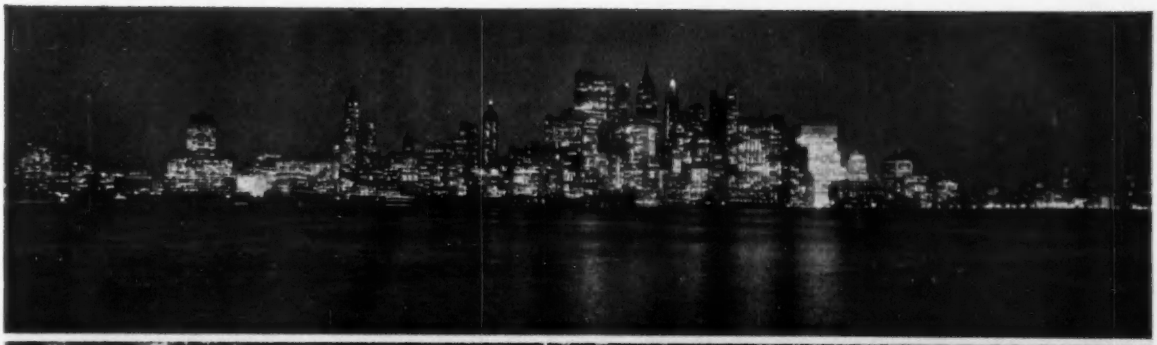
One Gateway Center, Pittsburgh 22, Pennsylvania
Sales Offices: New York • Buffalo • Pittsburgh



ONLY COAL TAR PITCH gives roofs the complete, lasting waterproofness necessary to prevent deterioration. Coal tar pitch is slightly more expensive than other materials, but offers the assurance of documented 40-year service and life-long "self-healing" properties. Koppers roofing specialists will be glad to tell you more.

KOPPERS TAR PRODUCTS DIVISION, PITTSBURGH 19, PA.

DISTRICT OFFICES: BOSTON • CHICAGO • LOS ANGELES • NEW YORK • PITTSBURGH • WOODWARD, ALABAMA





LOWER MANHATTAN, *where New York City began, is world-renowned for its granite canyons of business and finance. These canyons are 60-stories deep. By day, they're populated by 400,000 workers. At night, they're silent, deserted. Compacted as 564-acre Lower Manhattan is today, its potentialities are far from realized. The $1-billion redevelopment plans of the Downtown-Lower Manhattan Association include a World Trade Mart with a Central Securities Exchange and a 70-story commercial building, with a hotel on the top 10 floors, for the East Side; and a $100-million industrial and commercial project for the West Side. OTIS has had a long-standing "vertical expansion" interest in compact Lower Manhattan — where it's possible to get almost anywhere in a few minutes by foot and elevator. Over 60% of these elevators are the world's finest. They're by OTIS.*

OTIS ELEVATOR COMPANY
260 11th Avenue, New York 1, N. Y.
Offices in 501 cities around the world

AUTOTRONIC® OR ATTENDANT-OPERATED PASSENGER ELEVATORS • ESCALATORS • TRAV-O-LATORS • FREIGHT ELEVATORS • DUMBWAITERS
ELEVATOR MODERNIZATION & MAINTENANCE • MILITARY ELECTRONIC SYSTEMS • GAS & ELECTRIC TRUCKS BY BAKER INDUSTRIAL TRUCK DIVISION

Baker® industrial trucks

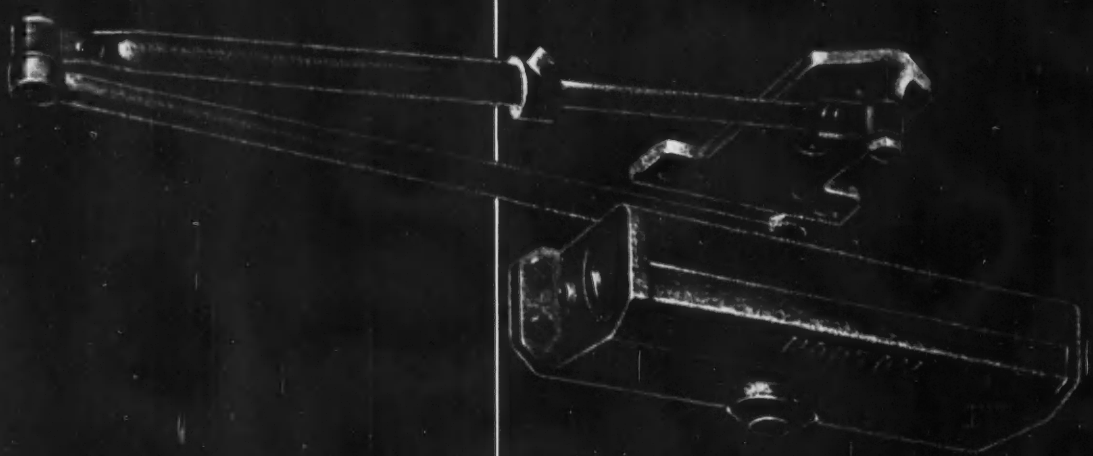
designed to harmonize with your buildings...

NORTON TRIMLINE

SERIES

1500

DOOR CLOSER



• Norton's new Trimline is specially designed to complement the good taste and artistic expression of your buildings. This rugged door closer combines function, beauty and performance.

The Trimline is non-handed, suitable for either interior or exterior surface mounting. It is a compact rack-and-pinion closer—projecting as little as 3 inches from the door. Write for complete details; ask for Manual T.

1007

NORTON®

DOOR CLOSERS

Dept. AR-I. Berrien Springs, Michigan

TWO NEW WALL CONCEPTS

Stark Ceramics presents two entirely new ideas for wall construction. In addition to Stark's well-known quality line of structural glazed tile, the Architect, Contractor or Creative Designer is now offered a structural glazed tile wall that fulfills the need for outstanding custom designs or a wall that meets the most severe budget restriction.



SCULPTURED

STRUCTURAL CERAMIC TILE

Sculptured Facing Tile is really unique in the tile field. While retaining all the strength, durability and beauty of facing tile, a new versatility has been added. Deep-sculptured designs permit unlimited pattern and texture possibilities. Available in one modular size—8″ x 16″ x 4″.

Thrift-wall

WITH PRECISION-SYSTEM SURROUND FRAMES

Stark's new Thrift-Wall system offers savings in wall costs of ⅓ or more. Three modular Structural ceramic units plus surround-type metal frames for doors and windows offer lower labor costs, lower material costs and savings in time of detailing and take-off. When the budget demands the finest wall at the lowest cost . . . specify Stark Thrift-Wall . . .



Full details are available from your local Stark distributor or write direct.

STARK

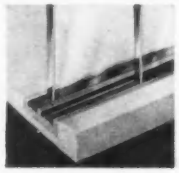
CERAMICS, INC. • CANTON 1, OHIO



Specify A LIFETIME OF SMOOTH, QUIET ACTION FOR 1/4" SLIDING GLASS AND PANEL DOORS



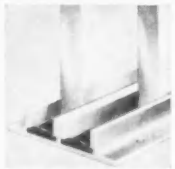
3814S All-fibre track for pocket or single ¼" sliding doors. In 4', 5' and 6' lengths.



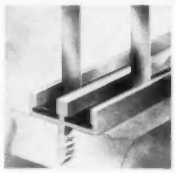
3814 All-fibre track for by-passing ¼" sliding doors. In 4', 5' and 6' lengths.



38AS14 extruded aluminum track with fibre inserts for ¼" by-passing doors. In 4, 5, 6 and 12-ft. lengths.



38A14 Track for ¼" by-passing glass doors with fibre inserts. In 4, 5, 6 and 12-ft. lengths.



38AM14 Track for ¼" by-passing glass doors. Press fits into ⅛" saw kerf. In 4, 5, 6 and 12-ft. lengths.



38AM314 Triple track for ¼" by-passing doors. Press fits into ⅛" saw kerf. In 4, 5, 6 and 12-ft. lengths.

E-Z Glide Track utilizes a self-lubricating, machined, vulcanized fibre which possesses a low coefficient of friction, great resistance to wear, corrosion or rust. The unique and varied designs available offer a solution to all sliding door requirements of good appearance, simplicity of operation and installation.

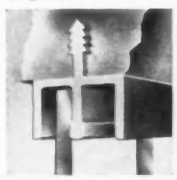
- Silent, finger-tip operation
- Durable, rust and corrosive proof
- Installation is quick and easy
- Wide variety of mountings



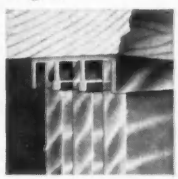
200 Upper T-Guide of extruded aluminum. For doors of any thickness. In 4, 5, 6 and 12-ft. lengths.



48A14 Upper guide for ¼" by-passing glass doors. In 4, 5, 6 and 12-ft. lengths.



48AM14 Upper guide for ¼" by-passing doors. Press fits into ⅛" saw kerf. In 4, 5, 6 and 12-ft. lengths.



48A314 Triple upper guide for ¼" by-passing doors. Provides own fascia. In 4, 5, 6 and 12-ft. lengths.

EPCO®

SEE SWEET'S CATALOG for the complete EPCO line under Architectural File No. 18g-En and Light Construction File No. 7a-En.

FREE CATALOG AVAILABLE ON REQUEST. Includes the complete line of EPCO E-Z Glide Track and Guides, Door and Drawer Pulls and Magna-Tite Magnetic Catches.



THE ENGINEERED PRODUCTS COMPANY
P.O. BOX 108 • FLINT, MICH. • PHONE CEdar 9-8689

LEOPOLD
LEOPOLD
LEOPOLD
LEOPOLD
LEOPOLD
LEOPOLD
LEOPOLD
LEOPOLD

The Template Group



crisp new design in office furniture

Now quantity production makes advance styled furniture affordable and practical for the general office. Interchangeable components allow unlimited combinations.

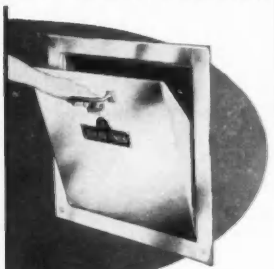


Write for free brochure.

THE LEOPOLD COMPANY
Burlington, Iowa

Another FIRST for WILKINSON

Electrically Interlocked CHUTE DOORS



Wilkinson electrically interlocked chute doors automatically lock when any one door is opened. When this door closes and after a predetermined time delay, all doors are unlocked.

Electrical interlocking prevents the use of more than one intake door at the same time in multi-story buildings.

The advantages! First, it eliminates drafts when chute doors are opened—an important sanitary feature. Second, it prevents loading from two, three, or more floors at once—a decided safety feature.

This is another exclusive feature for Wilkinson Chutes . . . another reason for specifying Wilkinson.

See our catalog in Sweet's Architectural File.

WILKINSON CHUTES, INC.
619 East Tallmadge Ave., Akron 10, Ohio



The main corridor of a Fred Harvey Oasis Restaurant on Tri-State tollway near Chicago, illustrating a dramatic ceiling treatment possible with Steeldome construction. The exposed concrete waffle ribs are painted charcoal gray, sounding a new note in decor motif.

Architect & Engineer:
Pace Associates.
General Contractor:
Ragnar Benson, Inc.

A NEW WORLD OF DECOR OPPORTUNITY IN CONCRETE JOIST CONSTRUCTION

Ceco Steeldomes Make Possible Unusual Ceiling Treatments . . . Provide Wide Open Spaces

In many an architect's office, you'll hear talk about the exciting new effects in ceiling ornamentation now possible with Ceco Steeldomes. Not only are architects talking . . . they are *using* Steeldomes to take advantage of this new world of decor in concrete joist construction. Reason: Steeldomes create smooth surfaces in the concrete ceiling, giving an unblemished, high quality finish, because they are removed by compressed air. The decorative treatment can be applied directly to the exposed waffle ceiling. Steeldomes offer other advantages, such as wide column spacings, the rigidity of monolithic concrete, and economy. Ceco Steel Products Corporation. Sales offices, warehouses and fabricating plants in principal cities. General offices: 5601 West 26th Street, Chicago 50, Illinois. Write for full particulars pertaining to Steeldome construction.

CECO STEEL

IN CONSTRUCTION PRODUCTS CECO ENGINEERING MAKES THE BIG DIFFERENCE

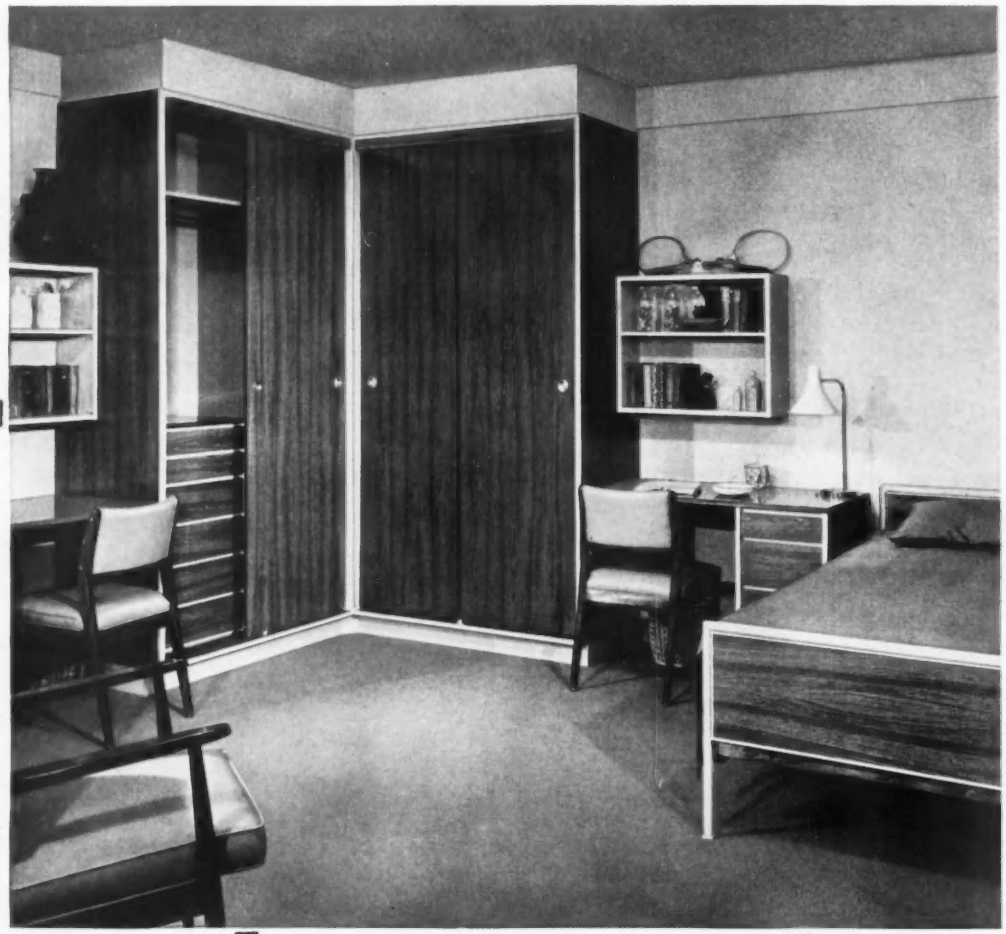
Steelforms/Concrete Reinforcing Steel Joists/Curtainwalls, Windows, Screens, Doors/Cecoframe Buildings Roofing Products/Metal Lath

TOTAL MANUFACTURING FOR THE BUILDING INDUSTRY FROM RAW TO FINISHED PRODUCTS









"student proof"

these Dorm Line built-in wardrobes



Student high spirits meet their match in these sturdy, steel-framed Dorm Line wardrobes. They're built especially to resist rough usage. The sliding doors withstand 1500-lb. strength tests—guide channels will not twist or bend; screws will not pull out; doors can't get off the tracks when bumped or jarred.

Dorm Line built-in wardrobes safeguard your investment in other ways, too. They are easier and less expensive to install because they come as complete units that fit room plans. They stay new looking—their faces are birch or natural Novoply, sealed and lacquered. You can have them in various finishes...or painted in a choice of colors.

In addition to wardrobes, Simmons Dorm Line includes desks, bookshelves, chairs, chests and beds—all handsomely styled and built for carefree maintenance. Write us for literature... and see Dorm Line furniture soon.

SIMMONS COMPANY
CONTRACT DIVISION

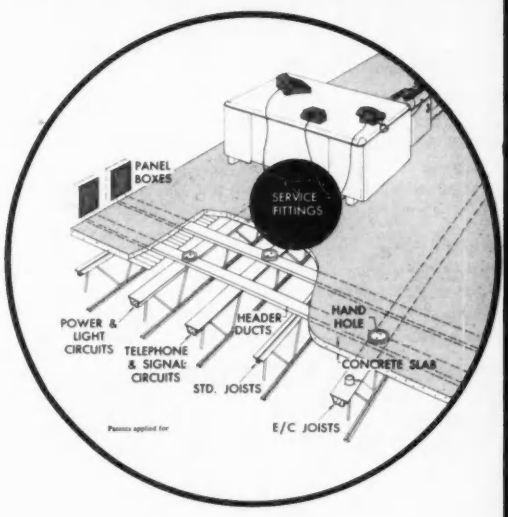
Merchandise Mart · Chicago 54, Illinois

DISPLAY ROOMS: Chicago · New York · Atlanta · Columbus
Dallas · San Francisco · Los Angeles

THE NEWS IN UNDERFLOOR ELECTRIFICATION IS THE SAVING OFFERED BY CECO'S E/C JOIST SYSTEM



Whenever desks are moved, electrical outlets can be installed anywhere along the E/C Joists to service the new positions. Electrical, telephone and signal wires are run down through the floor at the service fittings, through the top chord of the E/C Joist, into the header ducts and on to the service panel boxes.



TOTAL MANUFACTURING FOR THE BUILDING INDUSTRY FROM RAW TO FINISHED PRODUCTS

When a method of construction offers quality at a cost lower than any competing system, that's a combination hard to beat. Add to that — practicality plus design that satisfies the future . . . then you can specify with confidence. Such is Ceco's E/C Joist system of underfloor electrification. Savings are realized because Ceco's E/C Joists do two jobs: 1 — provide raceways for underfloor electrification; 2 — carry the floor load. Now any building "can afford" underfloor electrification. On your next job specify the Ceco E/C Joist system. Send for the facts now. Mail the handy coupon today. Ceco Steel Products Corporation. Sales offices, warehouses and fabricating plants in principal cities. General offices: 5601 West 26th Street, Chicago 50, Illinois.

CECO STEEL

IN CONSTRUCTION PRODUCTS CECO ENGINEERING MAKES THE BIG DIFFERENCE . . .
Steel Joists / Steelforms / Concrete Reinforcing / Curtainwalls, Windows, Screens, Doors / Cecoframe Buildings / Roofing Products / Metal Lath

CECO STEEL PRODUCTS CORPORATION AR
5601 West 26th Street, Chicago 50, Illinois

Please send me the following technical literature:
☐ E/C Joist Manual #3011-A ☐ Steel Joist Catalog #3001-P ☐ Joist Load Tables #3009

name_____
position_____
firm_____
address_____
city_____ zone_____ state_____
☐ If student, check here for special data.

engine power BY CATERPILLAR

WHEN POWER FAILS YOUR CLIENTS EXPECT "BUSINESS AS USUAL"

The basic business of a building need not be suspended when utility power fails if it is equipped with a Caterpillar Electric Set for standby use.

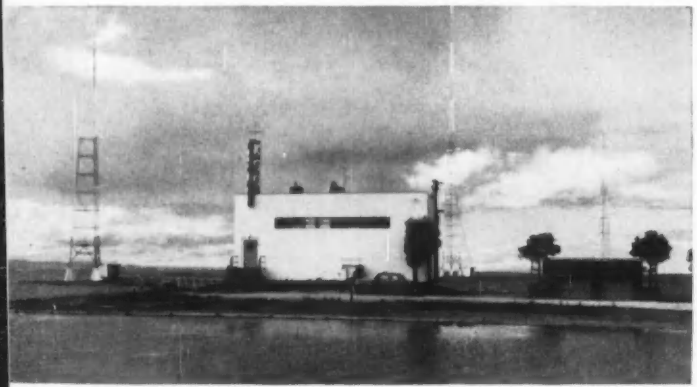
Many of your clients' businesses include the saving of lives in operating rooms, broadcasting of essential information and keeping communication lines open in a crisis.

This is why it's no longer a question of "is standby power needed?" It's "what kind of standby power is needed?" And whenever you recommend and specify Caterpillar Electric Sets, you assure your clients of dependable emergency power, and insure them against loss of production time, loss of selling time or even, in the case of hospitals, loss of life.

To get the answers on the most suitable type of emergency power for every building you design, see your Caterpillar Dealer or write to Engine Division, Caterpillar Tractor Co., Peoria, Illinois. The right Caterpillar Electric Set can be recommended to insure all types of buildings—and businesses—against electric power failure.

CATERPILLAR

Caterpillar and Cat are Registered Trademarks of Caterpillar Tractor Co.



RADIO STATION KGO—This key station of the American Broadcasting System network at Newark, California, is located at east end of Dumbarton bridge across the bay from San Francisco. The station is powered 100 per cent by a Caterpillar Electric Set during emergencies, including the CAA lights on towers.

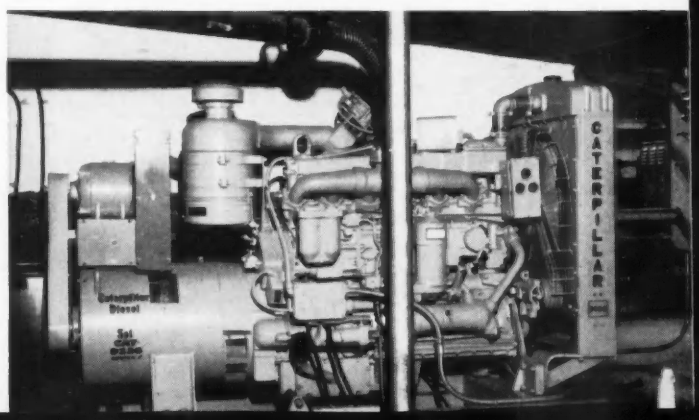


TELEPHONE EXCHANGE—General Telephone Company of Florida (Sarasota) uses Cat Electric Sets for standby power. Exchange has 30,000 dial telephones. Long distance facilities are provided by a 48-position toll board. Out-of-town connections are made through 120 microwave circuits as well as underground cables.

ST. JOSEPH'S HOSPITAL in Elgin, Illinois. A Caterpillar Electric Set furnishes emergency power for the entire hospital consisting of 153 beds, 5 operating rooms, elevators and the residence for the nurses. Hospital has had several power failures since emergency unit was installed.



This CATERPILLAR D326 ELECTRIC SET is equipped with automatic start-stop controls, so that when power fails, it assumes the load in 4 to 8 seconds. Caterpillar Diesels operate on widely available types of diesel fuel whose low combustion factor makes them a desirable safety factor, particularly in hospitals.



Medical Professional Building, San Antonio, Texas. Architects: Marmon & Mok, Jerry Rogers; Contractors: Harwell & Harwell.



THE UNUSUAL IS THE USUAL IN CECO CURTAINWALLS

. . . ENGINEERED FOR PERFECTION IN PERFORMANCE



Bloomfield Junior High School, Bloomfield Hills, Michigan. Architect: Smith, Tarapata, McMahon; Contractor: Pulte-Strang.

Not made to a price to "get by" temporarily under optimum conditions, but engineered to perform perfectly . . . year after year after year. Such is the standard for Ceco Curtainwalls, where the unusual is the usual in performance.

Basic engineering principles developed through technical research on the job and in the laboratory provide these assurances: (1) mullions designed to meet wind loads . . . (2) proper allowance for expansion and contraction, permitting windows and caulking to move together to ensure a tight weather-seal . . . (3) no accumulative expansion of wall panels . . . (4) firm anchorage of the wall to the skeleton of the structure.

Yes, you can be sure creation and construction will work together with Ceco Curtainwalls. You can blend artistic expression with practicality and be confident of perfection in performance. Call on your Ceco man in the planning stage. Take advantage of Ceco's "library of experience." Ceco Steel Products Corporation. General offices: 5601 West 26th Street, Chicago 50, Illinois. Offices, warehouses and fabricating plants in principal cities.

IN CONSTRUCTION PRODUCTS CECO ENGINEERING MAKES THE BIG DIFFERENCE

Curtainwalls, Windows, Screens / Hollow-Metal Doors / Steelforms / Concrete Reinforcing / Steel Joists
Roofing Products / Cecoframe Buildings / Metal Lath

CECO STEEL PRODUCTS CORPORATION AR
5601 West 26th Street, Chicago 50, Illinois

☐ Please have Ceco engineer bring me curtainwall data from your "library of experience."

☐ Please mail me Ceco's 1960 Curtainwall Manual No. 1069-D.

name_____

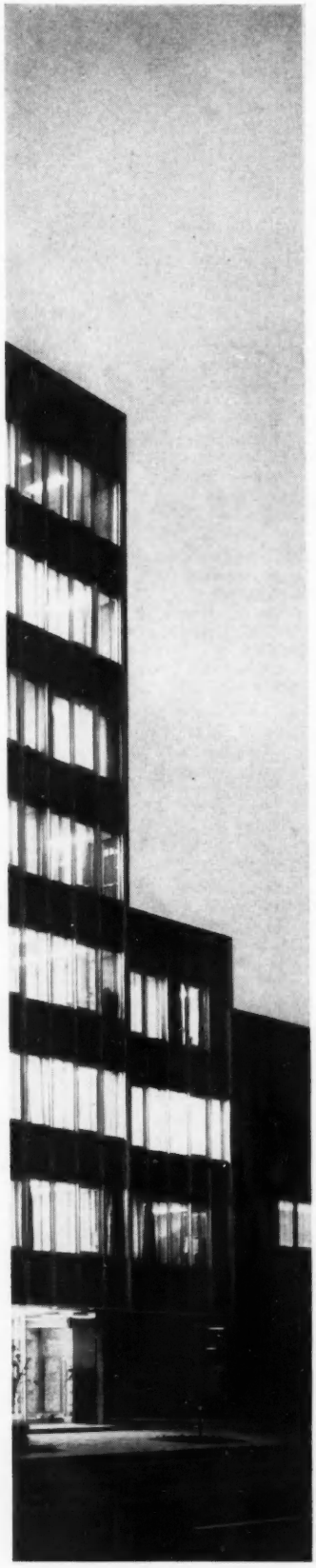
firm_____

street_____

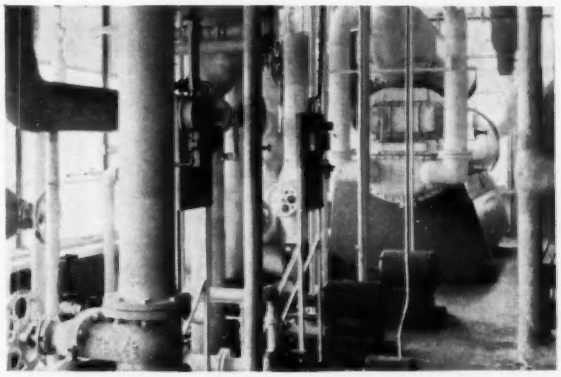
city_____ zone____ state_____



This new 3101 Euclid Avenue Building in Cleveland meets every modern requirement in the book. Attractive exterior, with glass and aluminum curtain walls. Most comfortable interior, with air conditioning by Gas-operated Carrier Absorption Refrigeration.



Attracts tenants with comfort cooling by GAS-operated CARRIER Absorption Refrigeration



AIR CONDITIONING PENTHOUSE. This equipment in penthouse atop the building includes two gas-fired Bryant boilers, 300-ton capacity Carrier Absorption unit to chill water for the Carrier Weathermaster air conditioning system, and Carrier cooling towers, too. Roof-top installation frees basement area for other uses.

H. L. Vokes Company of Cleveland, designers and builders of the new 3101 Euclid Avenue Building in that city, are experts in two-way satisfaction. They satisfied their tenants and their own cost requirements with one of the most efficient types of modern air conditioning– Gas-operated Carrier Absorption Refrigeration.

Comfort cooling in this building starts at the same two gas-fired boilers that furnish heat in winter. The Carrier absorption unit uses low pressure steam from the boilers as the energy source for water chilling. Thus, no prime mover is needed. Boiler capacity is put to use on a year 'round basis. And thrifty gas keeps fuel costs low.

Judge for yourself the efficiency and economy of Gas-operated Carrier Absorption Refrigeration. Specific performance data and cost details are yours for the asking. Just call your local gas company, or write to Carrier Corporation, Syracuse 1, New York. AMERICAN GAS ASSOCIATION.

FOR HEATING & COOLING GAS IS GOOD BUSINESS

For fast, low-cost framing of light occupancy buildings

Penmetal Structural Framing was originally developed as a complete framing system for light occupancy buildings, such as schools, hospitals, apartment houses, motels and dormitories. Because of its versatility, it is also used, in conjunction with other forms of construction, for interior bearing walls, exterior curtain-wall framing, floor and roof joists, high-bay partitions, and canopy and penthouse framing. Wherever used, Penmetal steel framing offers distinct advantages that result in lower over-all costs, faster erection, or both.



For further information about this unique framing system, contact any one of the listed

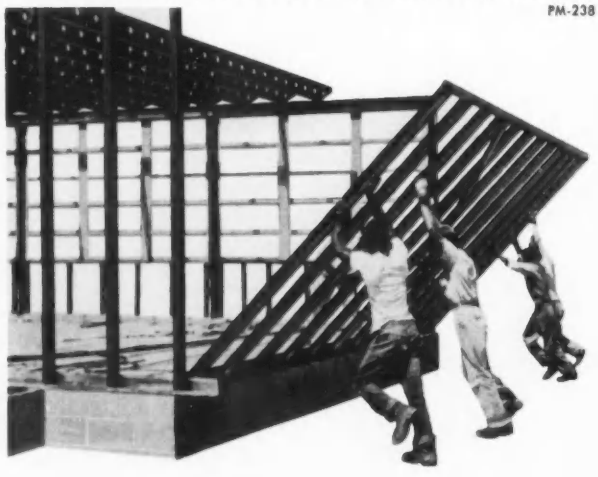
FRANCHISED DISTRIBUTORS

or, if you prefer, write direct to Penn Metal Company at the address below. Catalog SS-33, shown at left, details the many advantages of the system, gives specifications, dimensions, physical and structural properties, and uniform loads for various components.

PENN METAL COMPANY, INC.

Structural Framing Sales Office: P.O. Box 1460, Parkersburg, W. Va.
Executive Offices: 40 Central Street, Boston 9, Mass.
Plant: Parkersburg, W. Va.
District Sales Offices:
Boston, New York, Philadelphia, Pittsburgh, Chicago, Detroit, Dallas, Little Rock, Seattle, San Francisco, Los Angeles, Parkersburg, St. Louis

PM-238



NEW ENGLAND
Frank W. Baldwin Co., Boston, Mass.
Bernardston Welding, Inc., Greenfield, Mass.
Metal Building Specialties, Portland, Me.
United Structural Steel Co., Worcester, Mass.

MIDDLE ATLANTIC
Duggan & Marcon Associates, Inc., State College, Pa.
Industrial Engr. Works, Trenton, N. J.
The McGregor Architectural Iron Co., Inc., Scranton, Pa.
George Miller Brick Company, Rochester, N. Y.
Nelson Light Steel Company, Syracuse, N. Y.
Troy Slag Products Co., Troy, N. Y.
L. C. Vanderbeck Company, Hawthorne, N. J.

SOUTH ATLANTIC
Atlantic Steel Company, Atlanta, Ga.
Birmingham Steel Buildings, Birmingham, Ala.
Delaware Steel Service, Inc., Wilmington, Del.
Florida Steel Buildings, Inc., Tampa, Fla.
Hampshire Corp., Bladensburg, Md.
Mobile Steel Company, Mobile, Ala.
Montague-Betts Company, Lynchburg, Va.
Montague-Betts Company, Richmond, Va.
Roebuck Buildings Company, Roebuck, S. C.
Southern Fabricating, Inc., Staley, N. C.
Steel Builders, Inc., Columbus, Ga.

EAST NORTH CENTRAL
Don King Building Supplies, Inc., Jackson, Ohio
Harris & Fischer Iron Works, Inc., Saginaw, Mich.
Haven-Busch & Sons, Grandville, Mich.
Lightmetals Construction Products Co., Livonia, Mich.
Northeastern Boiler & Welding, Ltd., Green Bay, Wis.
Bertel Peterson Company, Rockford, Ill.
R. & W. Supply Company, Logansport, Ind.
The Steel Buildings Company, East Peoria, Ill.

EAST SOUTH CENTRAL
Daplen Industries, Memphis, Tenn.
Englert Engineering Company, Nashville, Tenn.
Perry Lumber Company, Inc., Lexington, Ky.
Snead Iron Works, Inc., Louisville, Ky.
Tucker Steel Corp., Knoxville, Tenn.

WEST NORTH CENTRAL
B & C Corp., Kearney, Neb.
B & C Corp., Lincoln, Neb.
B & C Steel Products Co., Scottsbluff, Neb.
Builder's Specialties Co., Faribault, Minn.
Abe W. Mathews Engr. Co., Hibbing, Minn.
Southwest Ornamental Iron Co., Kansas City, Mo.
Steel Structures, Inc., Minneapolis, Minn.

WEST SOUTH CENTRAL
Darbyshire Steel Company, El Paso, Tex.
Darbyshire Steel Company, Odessa, Tex.
The Jim Doyle Company, Houston, Tex.
Graham Steel Structures, Inc., Dallas, Tex.
Irwin Steel Company, San Antonio, Tex.
Panhandle Steel Bldgs. Co., Amarillo, Tex.
Patterson Steel Company, Oklahoma City, Okla.
Patterson Steel Company, Tulsa, Okla.
Steel Bilt Products Co., Lubbock, Tex.
Wilson Steel Company, Baton Rouge, La.

MOUNTAIN
Building Specialties Corp., Salt Lake City, Utah
C & R Distributing Co., Phoenix, Arizona
Idaho Acoustical & Bldg. Specialties Co., Boise, Idaho
Rio Grande Steel Products Co., Albuquerque, N. M.
Steel Structures of Colorado, Inc., Englewood, Col.

PACIFIC
Chambers Steel Company, San Diego, Calif.
Dix Steel Company, Spokane, Wash.
Fabricated Building Items Co., Los Angeles, Calif.
Portland Wire & Iron Works, Portland, Ore.
Tayler Products Corp., Burlingame, Calif.
Tayler-Spotswood Northwest, Inc., Seattle, Wash.

EXPORT
Hernandez Enterprises, Hato Rey, Puerto Rico
Lacy Manufacturing Company, Honolulu, Hawaii

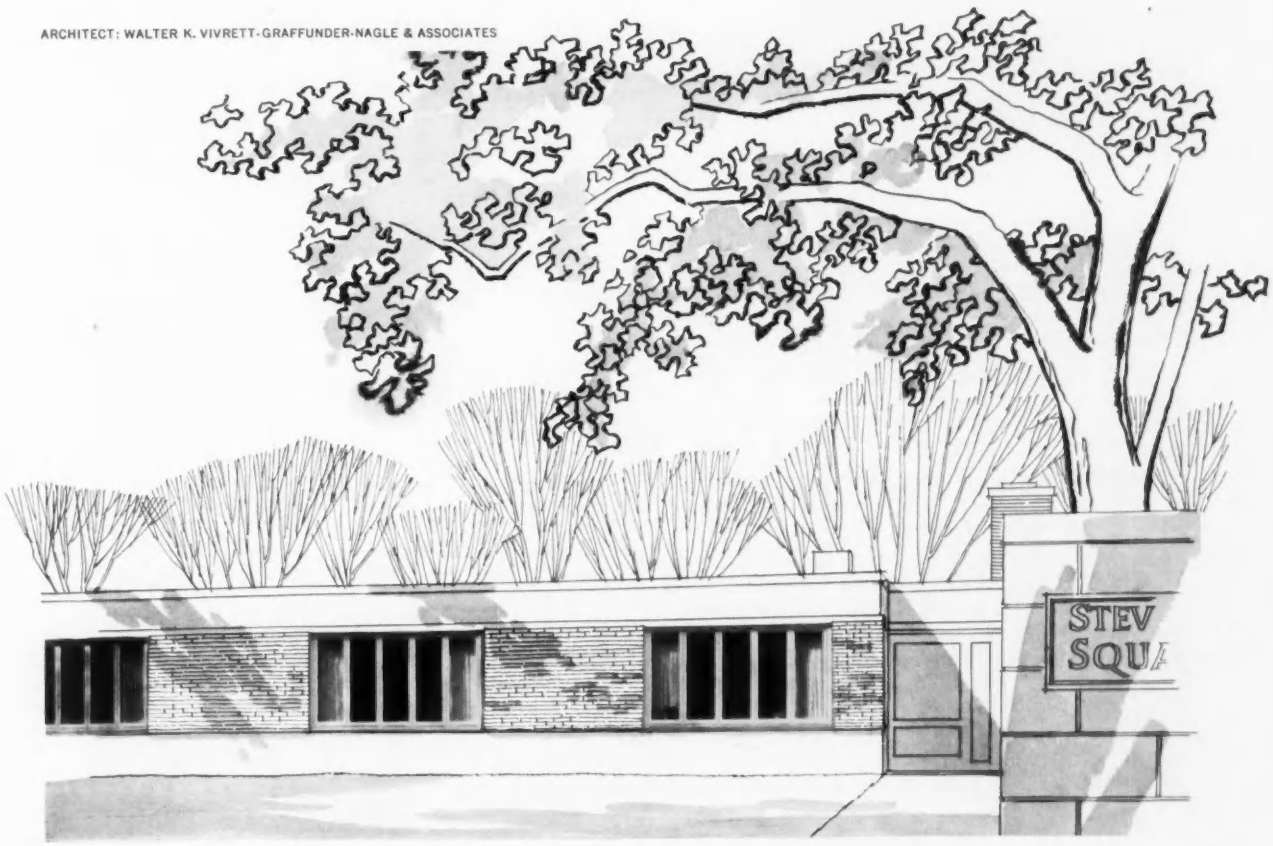
Pella®

wood casement windows

serve as important design feature in home for retired

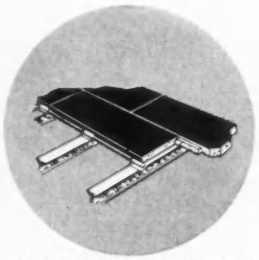
Groups of five No. 24N PELLA CASEMENT WINDOWS provide a functional design element that complements the long, horizontal lines of this single-story unit. Over 200 PELLA CASEMENTS were used on this entire job. PELLA offers you 60 *standard* sizes with well-proportioned sash and mullions that combine into hundreds of custom-like arrangements. Traditional effects can be achieved with PELLA removable muntins that snap in and out for easy cleaning. To assure low maintenance cost, PELLA CASEMENTS offer self-storing ROLSCREENS and storm sash. Insulating glass also available. Compare...then specify versatile PELLA WOOD CASEMENT WINDOWS on your next project. Full specifications in SWEET'S catalog. Or consult the classified section of your telephone directory for name of our nearest U.S. or Canadian PELLA distributor. ROLSCREEN COMPANY, PELLA, IOWA.

ARCHITECT: WALTER K. VIVRETT-GRAFFUNDER-NAGLE & ASSOCIATES

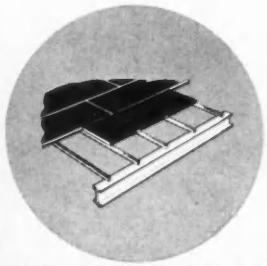


There's no faster or better way!

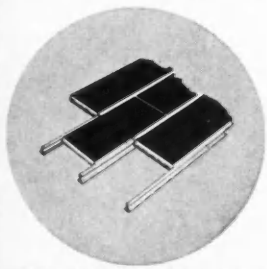




Tectum Roof Deck Planks clip to joists at each crossing. T & G edges give strength, tight joints.



Tectum Box Section Roof Deck Assembly combines roll formed sub-purlins and Tectum planks for speedy erection, lateral strength.



Tectum Tile for bulb-tee systems provides rabbeted edges for secure grout seal and solid anchorage.

Tectum's time-saving trio of roof deck systems provides the fastest possible methods to install a roof deck, finished ceiling, insulation and acoustical treatment. Basic features illustrate why. Tectum, with insulating, acoustical and structural qualities, provides single material economies that cut costs, save time, save materials.

TECTUM'S LIGHT WEIGHT speeds handling, reduces shipping weight and makes labor more productive. Light yet tough composition withstands impact and abuse.

FACTORY APPLIED FELT BACKING protects Tectum, gives perfect surface for built-up roof application. Another time-saving advantage.

RABBETED EDGES for bulb-tee framing are your assurance of better grout sealing, more positive anchor. Large area buildings may be covered rapidly. Bulb-tee flanges provide neat finished appearance for ceiling surfaces.

TONGUE AND GROOVE EDGES are machined on Tectum plank for neat, tight fitting joints, add stability between supporting joists or beams. *Tectum Clips* speed anchoring to roof frame, no metal to air transfer to cause condensation or heat loss. Tectum goes down in a hurry!

CUSTOM LENGTHS are available to match your building plans. Standard or special, your Tectum representative can contribute to vital savings through planned production and time-saving suggestions.

These exclusive, time-saving features are backed by qualities that place Tectum in a class by itself. Tectum is the only product of its type that retains the live strength of tough wood fibers to provide high secondary strength. Tectum is tougher, yet lighter in weight and has great resistance to impact and abuse. And Tectum is Fiberguard protected with specially formulated silicones for effective water repellency. *Ask to see the new full color movie, just released, "BUILDING THE FUTURE WITH TECTUM". It's available through all district offices for special meetings of all types.*

TECTUM CORPORATION
535 East Broad Street, Columbus 15, Ohio

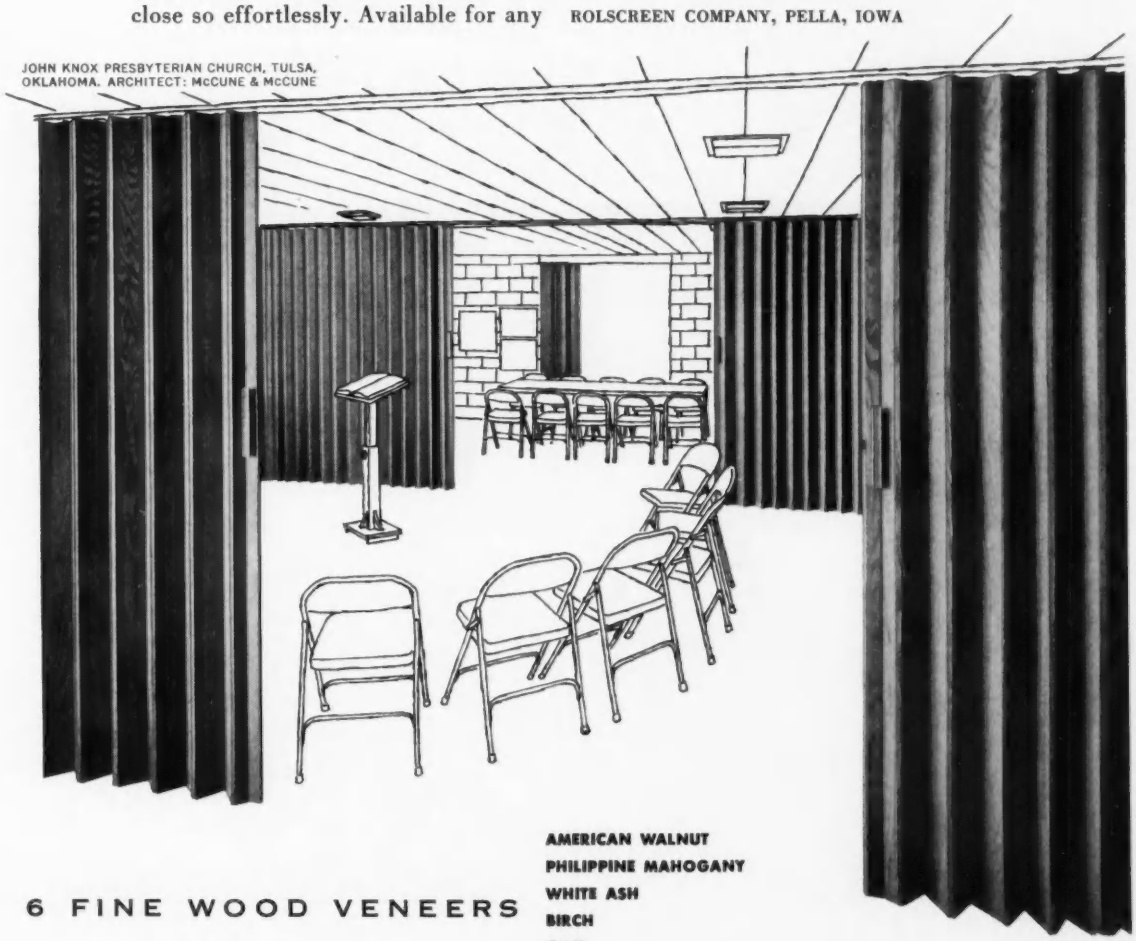
Tectum®

Pella® folding doors

control space with the gracious authority of natural wood

For governing the varied uses of space in churches, schools, restaurants and residences, there is seldom a question about the fitness of PELLA FOLDING DOORS of WOOD. They are available factory-finished or unfinished in rich, natural grains of 6 different woods. Solid wood "Lamicor" panel construction prevents warping. Patented steel spring hinging is one of the reasons why large PELLA DOORS open and close so effortlessly. Available for any width and in heights to 12′1″, PELLA WOOD FOLDING DOORS arrive factory assembled, complete with all hardware for quick installation. Because satisfaction depends on appearance as well as function, try working with WOOD folding doors by PELLA on your next problem of space control. Full specifications in Sweet's. Consult your classified telephone directory for name of nearest dealer in U. S. or Canada.

ROLSCREEN COMPANY, PELLA, IOWA



JOHN KNOX PRESBYTERIAN CHURCH, TULSA, OKLAHOMA. ARCHITECT: McCUNE & McCUNE

6 FINE WOOD VENEERS

AMERICAN WALNUT
PHILIPPINE MAHOGANY
WHITE ASH
BIRCH
OAK
PINE

"Rust bug" chewing up your client's stack?

Lock him out with A. O. Smith glass-protected smokestacks



Put A. O. Smith smokestacks in your specs and build lasting client satisfaction. Glass-lined inside and out, they're virtually impervious to condensate attack . . . last longer, as much as 3 to 5 times longer than conventional steel stacks. Now available in a variety of colors. Easy and economical to install, too! No need for special equipment or highly skilled workmen. Write Dept. AR-50 for complete information.



Through research . . . a better way

A.O.Smith
CORPORATION

SMOKESTACK SALES
PROCESS EQUIPMENT DIVISION
P. O. Box 584
Milwaukee 1, Wisconsin

GOING CUCKOO
WAITING FOR PRINTS?

THEN END YOUR FRUSTRATION,
SAVE your Valuable Time, STOP Wasting your Money
MAKE your own Whiteprints in Seconds for Pennies

Find out now about BLU-RAY, the finest made (guaranteed for a full year) white printer on the market!

BLU-RAY copies anything written, printed, typed or drawn on any translucent material. Speeds up to 4½ feet per minute; makes 42-inch wide prints, any length. 3 Lamps for more speed; finger-tip speed control; makes sepia reproducibles. Truly pays for itself.



UL and CSA Approved

BLU-RAY

FREE Brochure and Demonstration

TO: REPRODUCTION ENGINEERING CORPORATION
10 Westbrook Road, Essex, Connecticut

☐ Demonstrate Blu-Ray ☐ Rush brochure

Name _____

Company _____

Street _____

City and State _____

SARANSPUN

fabrics are converted by:

THE GEORGIA COMPANY, 276 Fifth Av., New York 1
MEAD & MONTAGUE, Inc., 245 Fifth Av., New York 16

and distributed through:

CALIFORNIA:
GEFFMAN FABRICS, 950 Santee St., Los Angeles
PEERLESS CTN. MFG. CO., 1047 Santee St., Los Angeles
PEERLESS CTN. MFG. CO., 575 Mission St., San Francisco
JACK H. PERLE CO., 2414 S. Broadway, Los Angeles

COLORADO:
COLUMBINE MFG. CO., 1250 Broadway, Denver
THE PAWLEY CO., 26th & Walnut Sts., Denver

GEORGIA:
CAROLE TEXTILES, 906 Ellis St., Augusta

ILLINOIS:
CLARK LINEN & EQUIP. CO., 303 W. Monroe St., Chicago
DAZIANS, 125 N. Wabash, Chicago
LUSSKY, WHITE & COOLIDGE, 214 W. Monroe, Chicago
HAAG BROTHERS, Box 272, Skokie

LOUISIANA:
C. BEL FOR AWNINGS, 3139 Tchoupitoulas, New Orleans

MARYLAND:
C. E. BRIDDELL CO., 2800 Hampden Ave., Baltimore

MASSACHUSETTS:
DUGGAN SIMMONS CO., 131 Portland St., Boston
ANDREW DUTTON CO., 60 Canal St., Boston
SEAVEYS INC., 38 Emerson St., Haverhill

MICHIGAN:
DECORATIVE MILLS, 14217 Fenkell, Detroit
MORGANROTH FABRICS, INC., 7329 W. McNichols Rd., Detroit

MINNESOTA:
B. H. RITTERHOFF, 600 First Ave., N., Minneapolis

MISSISSIPPI:
WOOLLEY BROS., 411 S. State St., P.O. Box 1245, Jackson

MISSOURI:
PRAIRIE PRODUCTS CO., 617 Wyandotte, Kansas City

NEW JERSEY:
KRUPNICK BROS., INC., 386 Broad St., Newark
S. RADIN & SONS, 209 Straight St., Paterson

NEW YORK:
A. & J. SHADE CO., 37 Franklin St., Buffalo
FRANK NIERING & CO., INC., 33 S. Robinson Ave., Newburgh
CREA-TEX CORP., 387 Fourth Ave., New York 16
DAZIANS, 142 W. 44th St., New York
JOFA INC., 45 E. 53rd St., New York
GREEFF FABRICS, 4 E. 53rd St., New York
KRAVET FABRICS, 104 E. 25th St., New York
MELCO FABRICS, 7 W. 29th St., New York
ERBUN FABRICS, 19 E. 21st St., New York
MAHARAM FABRICS, 130 W. 46th St., New York
NACO, 291 Grand St., New York
ROLAY FABRICS, 118 E. 28th St., New York
F. SCHUMACHER & CO., 60 W. 40th St., New York
STROHEIM & ROMANN, INC., 35 E. 53rd St., New York
J. H. THORP, P.O. Box 409, Grand Central Sta., New York
JUD WILLIAMS, INC., 18 E. 55th St., New York

OHIO:
S. M. HEXTER CO., 2810 Superior Ave., Cleveland
PAYNE & CO., 3500 Kettering Ave., Dayton

OKLAHOMA:
FABRICUT, 1506 S. Utica, Box 3566, Tulsa

PENNSYLVANIA:
BASSETT McNAB COMPANY, 1032 Arch St., Phila.
CROYDON FABRICS, 1926 Arch St., Phila.
LEEDES FABRIC, 1318 Arch St., Phila.
DECORATORS INDUSTRIES, 2106 Penn Ave., Pittsburgh

TEXAS:
A. F. SCHMALZRIED & CO., 2650 Main St., Dallas
CARL E. WILLIAMS, 4304 La Branch, Houston

WASHINGTON:
PHIL YOUDENE CO., 919 Olive Way, Seattle

CANADA:
A. B. CAYA, Kitchener, Ont.
CAVERS FABRICS LTD., 60 Front St., West, Toronto
ARTHUR SANDERSON & SONS, 31 Teraulay St., Toronto

THE REVOLUTIONARY DRAPERY FABRIC THAT COMBINES LUXURY WITH EVERY PRACTICAL ADVANTAGE FOR MAINTENANCE-ECONOMY

SARANSPUN



Photo: Quincy House, Harvard University

If you've despaired of ever finding a drapery fabric that meets all your requirements, it's time you checked SARANSPUN. For delicately lovely SARANSPUN fabrics have a mohair or linen hand—yet they're tough enough to outlast your best expectations. SARANSPUN isn't brittle — can't crack. It's inherently and permanently flameproof, unaffected my moisture or humidity — which means no "elevator action," and SARANSPUN may be washed or **dry-cleaned** with easy-to-read instructions. Act now—there's a SARANSPUN dealer handy.

SARANSPUN

80% SARAN
20% VISCOSE RAYON

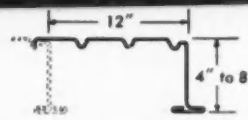
SARANSPUN WOVEN BY: J. P. STEVENS & CO., INC.

SARAN FIBERS PRODUCED BY THE FILAMENT AND YARNS DIVISION OF

THE NATIONAL PLASTIC PRODUCTS COMPANY

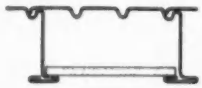
ODENTON, MARYLAND

MANUFACTURERS OF NEVAMAR DECORATIVE LAMINATES



T-STEEL — New! Galvanized. For clear spans to 32'0". Adaptable to acoustical and flush, luminous ceiling treatments. Provides superior diaphragm to transmit seismic and wind loads.

Ceiling Treatments with T-Steel Deck



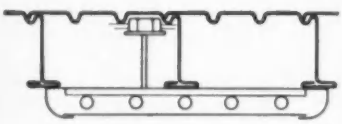
Standard Tile or Board



Corrugated Diffuser



Exposed (Underside painted for increased reflection)



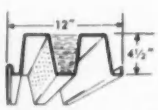
Surface-mounted Fixture



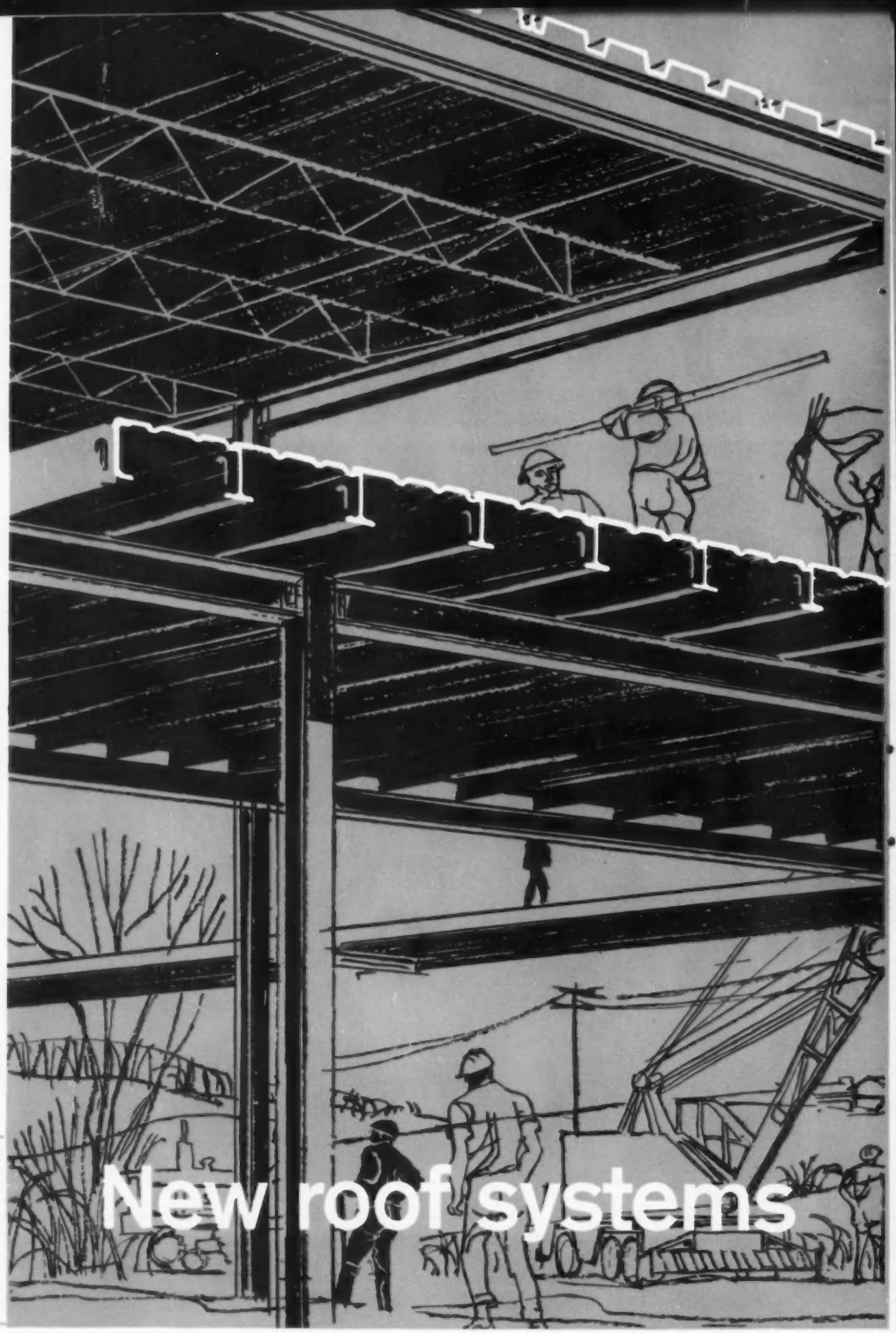
Lath-and-Plaster Fireproofing



TYPE B ACOUSTIDECK
For purlin spacings from 6' to 10'.
Uses minimum of 1" rigid insulation board.



TYPE C ACOUSTIDECK
For purlin spacings from 10' to 24'.
Uses minimum of 1½" rigid insulation board.



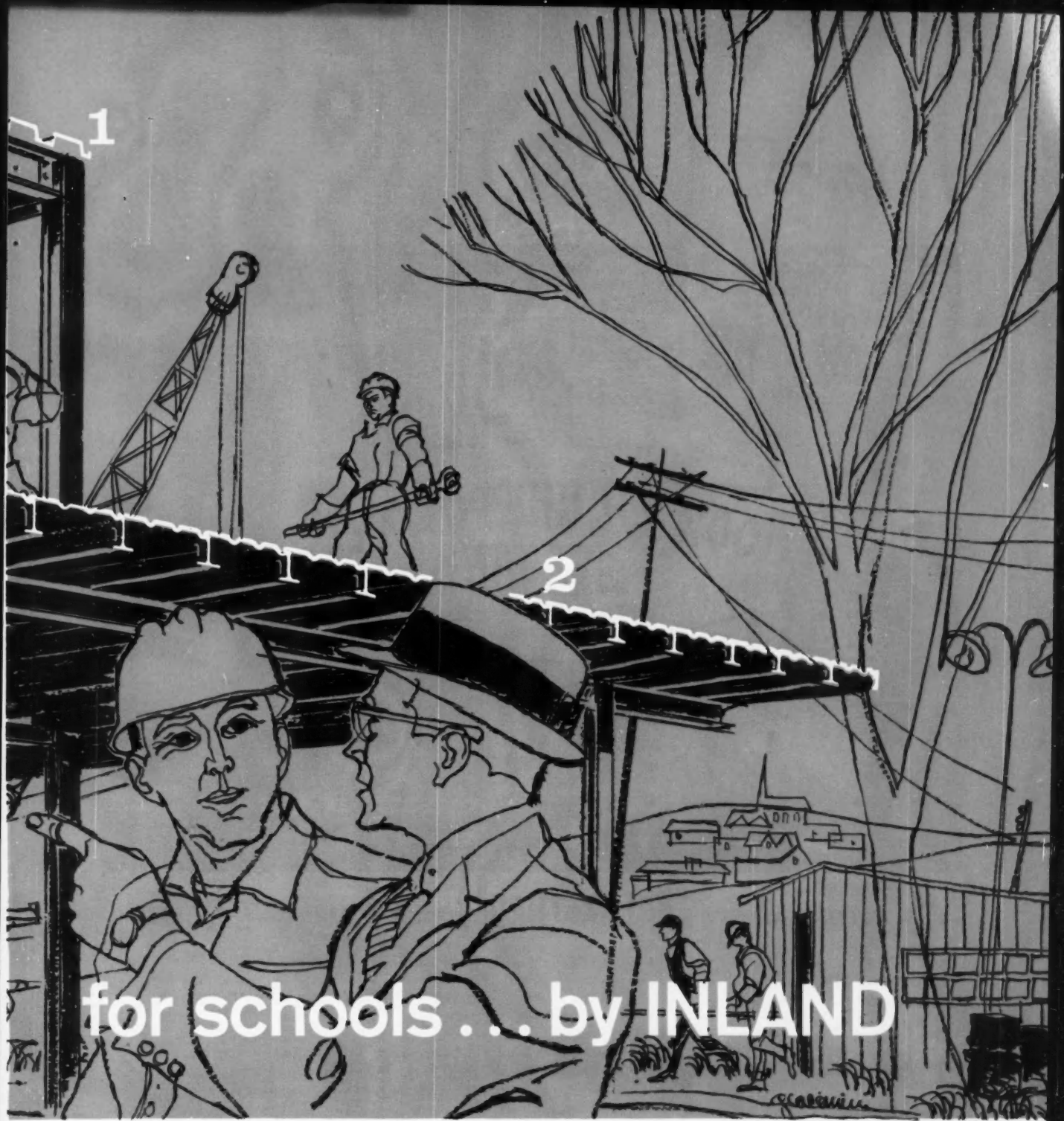
New roof systems

Complete structural systems that broaden your latitude in planning ceilings, lighting, acoustics—within realistic budget boundaries

1. Acoustideck for gymnasiums, other activity areas

Two-in-one panel combines steel roof deck and acoustical ceiling. Provides acoustical treatment that is considerably less subject to damage than other types — Noise Reduction Coefficient of .70. Installed by welding in the same manner as regular steel deck.

Acoustideck has all the additional advantages of steel-deck construction: It is erected fast — in any weather that a man can work. Its Bonderized baked-enamel prime finish cuts painting costs in half. The interesting ribbed underside can be left exposed as an attractive ceiling.



2. New Inland T-Steel Roof Deck for clear-ceiling classrooms

Especially suitable over classrooms of 26′ to 32′ spans — or other areas where you want a large expanse of unbroken ceiling surface for a contemporary feeling.

You can provide practically any acoustical treatment — T-Steel permits installation of acoustical tile at an economy no other roof system can match. You can provide a flush, luminous ceiling — or you can leave the underside of T-Steel exposed and painted.

T-Steel deck provides a superior diaphragm to resist seismic and wind thrusts . . . as proved by full-scale shear tests conducted by independent engineering firms.

Write for catalogs 240, 241, and 246 or See Sweet's, sections 2c/Inl and 11a/In for full information on T-Steel and Acoustideck. Inland Steel Products Company has developed a force of trained sales engineers who are capable of giving you the benefit of their diversified experience on specific problems. Write or call your nearest Inland office.

member of the INLAND steel family

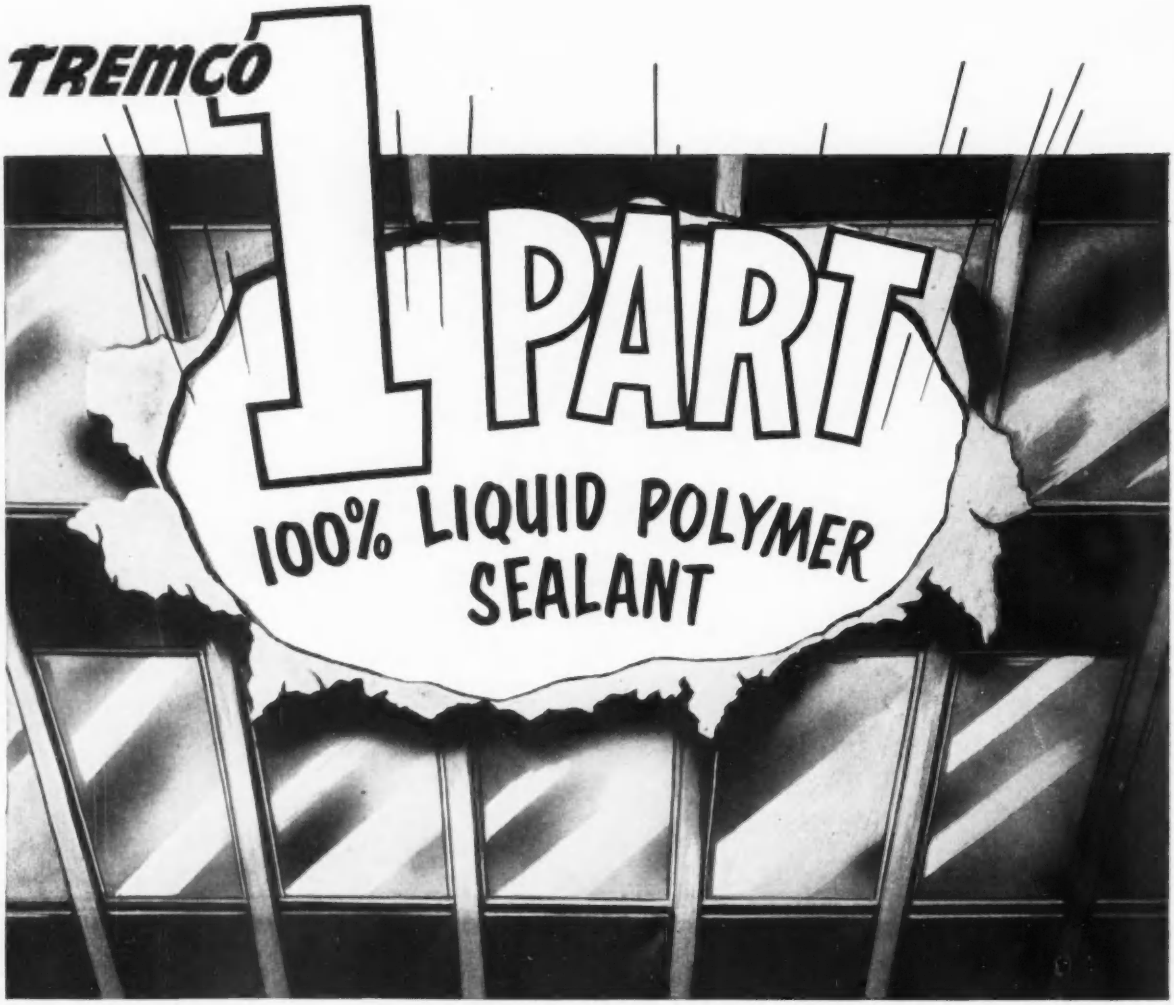
ENGINEERED PRODUCTS DIVISION

INLAND STEEL PRODUCTS COMPANY

Dept. E, 4033 West Burnham Street
Milwaukee 1, Wisconsin

CLEVELAND, DALLAS, DENVER, DETROIT, KANSAS CITY, LOS ANGELES, MILWAUKEE, MINNEAPOLIS, NEW ORLEANS, NEW YORK, ST. LOUIS

TREMCO



... a revolutionary **"BREAK THRU"** *in curtain wall sealants!*

Note This important Basic Difference

Mono Lasto-Meric* is formulated from Tremco-developed *natural 100% liquid polymers*. The basic ingredient is not a solid such as a butyl or vinyl. Therefore, it does not need to be modified with oil, etc., for adhesion, workability and long life. The desired characteristics of exceptional adhesion and enduring elasticity are an inherent and permanent part of the basic polymer. They are not attained through an ingredient that will migrate or disappear with time as is the case with conventional sealants. That "100% LIQUID" is the basic and important difference in TREMCO MONO LASTO-MERIC. *TM

MONO LASTO-MERIC 1-part 100% liquid polymer sealant is the latest development of the Tremco Research Center. It is definitely a major "break-thru" in curtain wall sealant advancement, and fills a long-felt vital need in the construction industry. Check these new advantages:

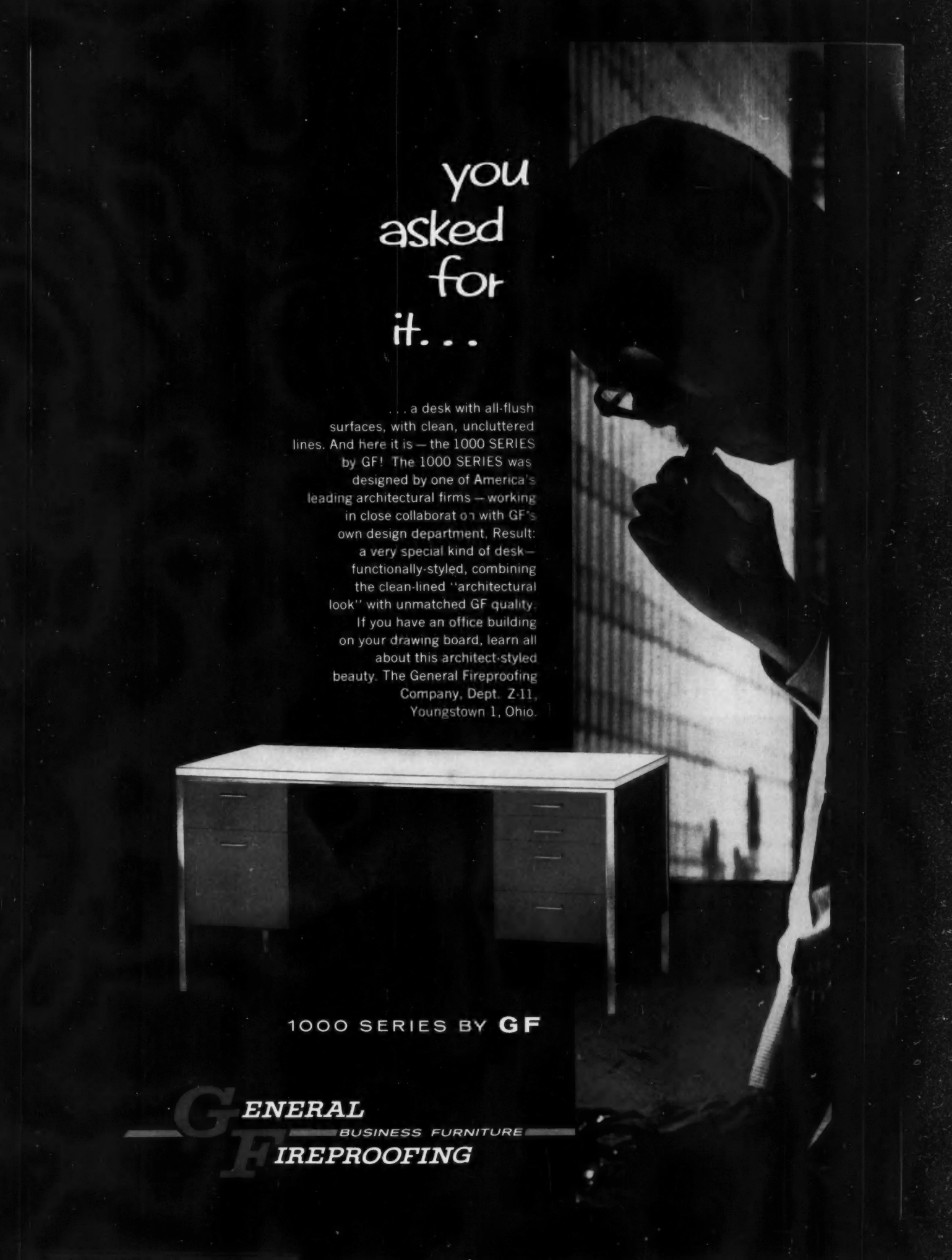
- **A factory-mixed 100% liquid polymer sealant—ready for use**
- **Eliminates hazards and high cost of job site mixing**
- **Exceptional adhesive qualities and enduring elasticity**
- **Non-staining on all types of masonry**
- **Wide range of colors**
- **Caulking gun consistency supplied in cartridge or bulk**

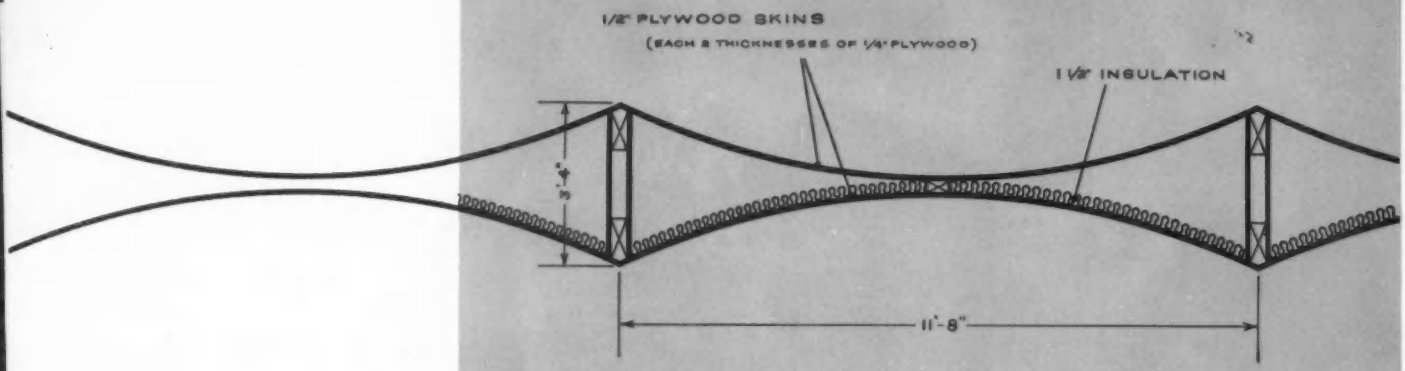
A data sheet prepared especially for the specifying authority gives all the particulars. Ask your Tremco Man for a copy or write:

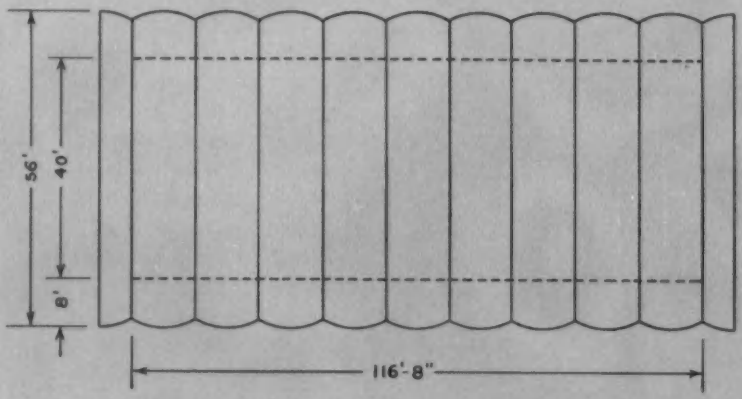
THE TREMCO MANUFACTURING COMPANY
Cleveland 4, Ohio

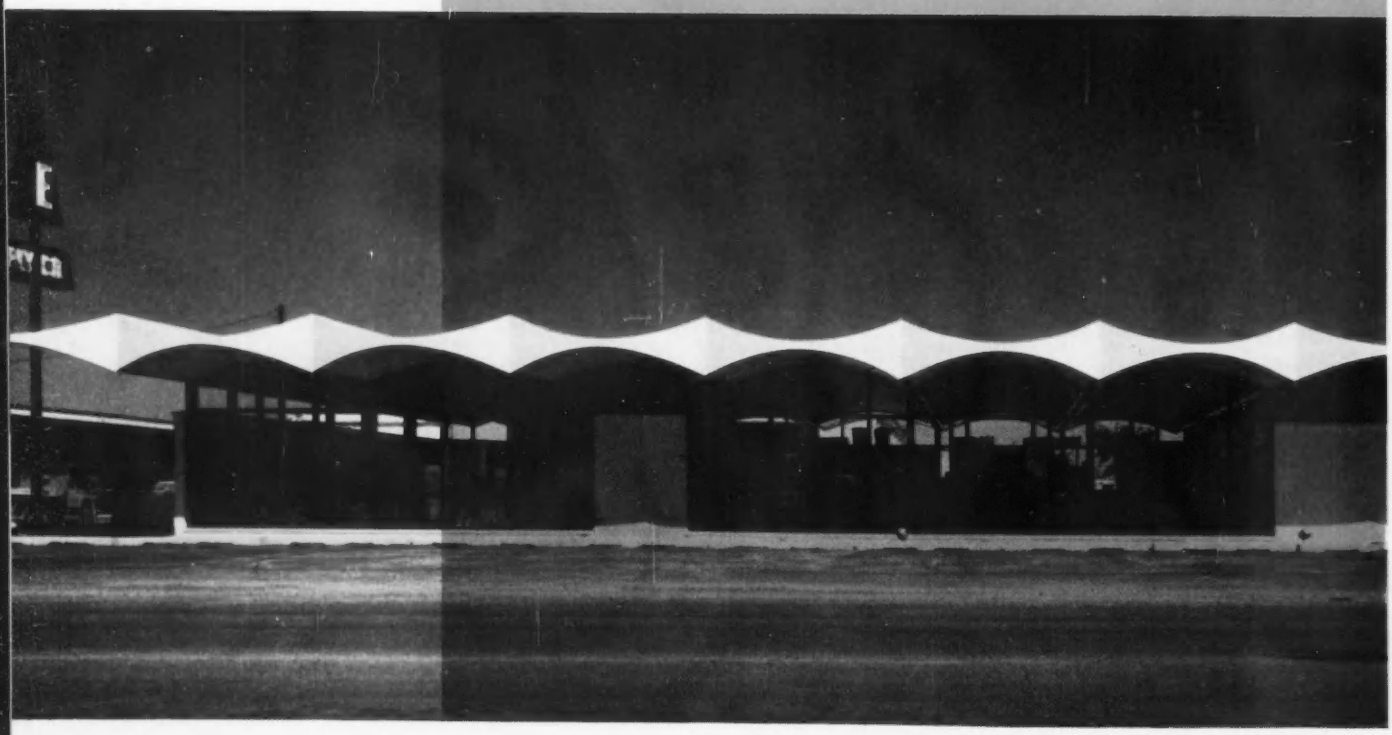
THE TREMCO MANUFACTURING COMPANY (CANADA) LTD.
Leaside, Toronto, Ontario

TREMCO
PRODUCTS AND TECHNICAL SERVICES FOR BUILDING MAINTENANCE & CONSTRUCTION

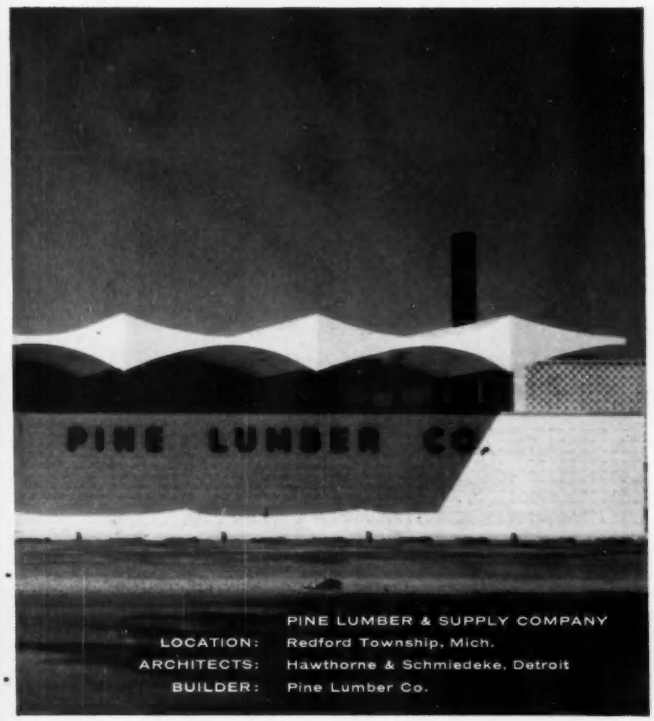

you asked for it. . .
. . . a desk with all-flush surfaces, with clean, uncluttered lines. And here it is — the 1000 SERIES by GF! The 1000 SERIES was designed by one of America's leading architectural firms — working in close collaboration with GF's own design department. Result: a very special kind of desk — functionally-styled, combining the clean-lined "architectural look" with unmatched GF quality. If you have an office building on your drawing board, learn all about this architect-styled beauty. The General Fireproofing Company, Dept. Z-11, Youngstown 1, Ohio.
1000 SERIES BY GF
GENERAL
BUSINESS FURNITURE
FIREPROOFING


1/2" PLYWOOD SKINS
(EACH 2 THICKNESSES OF 1/4" PLYWOOD)
1 1/2" INSULATION
3'-4"
11'-8"


56'
40'
8'
116'-8"



new approaches to structural design with fir plywood



PINE LUMBER & SUPPLY COMPANY
LOCATION: Redford Township, Mich.
ARCHITECTS: Hawthorne & Schmiedeke, Detroit
BUILDER: Pine Lumber Co.

THE AWARD-WINNING DESIGN of this retail lumber showroom is another example of the striking new architectural forms possible with fir plywood, at no sacrifice—in fact, with a gain—in structural strength and integrity.

The rippling roofline was created by a series of doubly concave plywood barrel vaults. It demonstrates the major advantages of the plywood vault for non-residential as well as home construction: design flexibility, a strong rigid roof, and economy in time and materials, due to plywood's high strength-weight ratio and extreme workability.

These vaults are of modified stressed skin construction, with plywood glue-stapled at edges to plywood box beams and, at mid-arc, to a continuous 2 x 4. The system provides large clear floor areas which, together with extensive use of glass for exterior walls, contribute to the remarkably light, open look.

The delicately scalloped silhouette is given a third dimension by a sheet metal fascia that caps the vault ends and bows out in plan to repeat the curve of the arches. For basic fir plywood design data, write (USA only), Douglas Fir Plywood Assn., Tacoma 2, Wash.

DFPA®
TESTED
QUALITY

ALWAYS SPECIFY BY
DFPA TRADEMARKS

Look to **Bilt-Well** *by* **Caradco** *for Kitchen Flexibility*



Whether the plan calls for a provincial, traditional or modern kitchen..."L" shape, "U", rectangular or square, with BILT-WELL Cabinets you can offer customers all the features of the most expensive custom-built installation and save valuable hours of labor on every job.

There are over 100 different types and sizes of BILT-WELL Cabinets precision manufactured in 3″ modular units from 12″ to 48″ widths. There are door and drawer units to provide the right cabinet for every storage need...every floor plan.

Available with a choice of warm Ponderosa Pine or elegant Birch door and drawer fronts, BILT-WELL Cabinets can be easily stained, varnished, lacquered or enameled to match any decorating scheme.

THE BILT-WELL LINE

WINDOW UNITS. Double-hung, Awning, Casement, Basement. CABINETS. Kitchen, Multiple-use, Wardrobe, Storage, Vanity-Lavatory. DOORS. Exterior, Interior, Screen and Combination.

CARADCO, INC. *Dubuque, Iowa*

For ultimate design flexibility specify

BILT WELL WOOD WORK *by Caradco*

for complete catalog of non-residential aluminum windows and curtain walls, and name of Adlake representative nearest you, write The Adams & Westlake Company, Elkhart, Indiana.

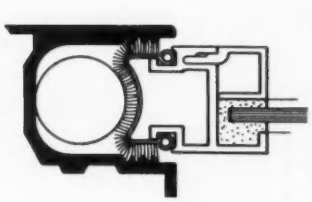
double hung windows

that keep faith with

tomorrow's generations, too

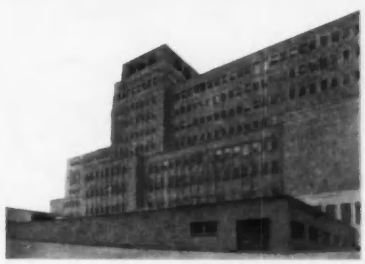
A+dlake

Adlake serrated guides penetrate into weatherstrip providing a perfect seal on all single and double hung windows. Adlake developed and pioneered use of woven-pile weatherstrip and patented serrated guides.



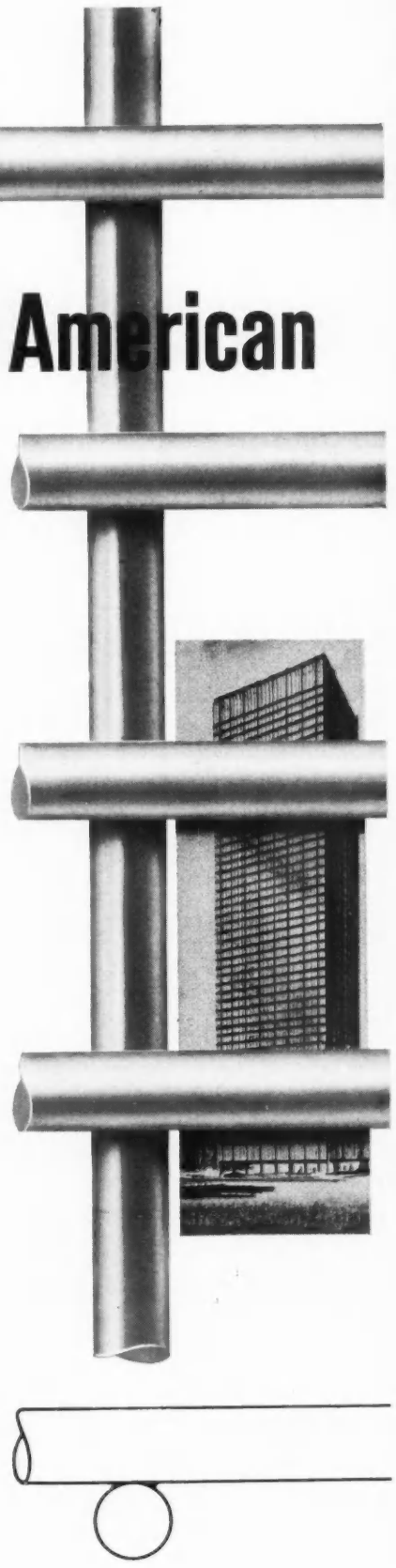
Elisha Ballantine Hall at Indiana University, Bloomington, Indiana has Adlake double hung windows.

Architects: A. M. Strauss & Assoc., Inc., Ft. Wayne, Ind.
General Contractors: Huber, Hunt & Nichols, Inc., Indianapolis, Ind.



It's new...
it's big...
it's strong...

extra-heavy ½ inch USS American



Welded Wire Fabric is now available with ½" diameter wires spaced as close as 2" on centers in both directions! These new areas of steel, plus the many time-tested advantages of Welded Wire Fabric, make it the ideal structural reinforcement for all types of construction—one-way slabs, two-way flat plates or flat slabs, walls, slabs on grade, etc.

Consider these advantages:

1. American Welded Wire Fabric is produced from cold-drawn high tensile steel wire. This wire is carefully produced to conform to the requirements of ASTM Specification A82-58T. The minimum tensile strength is 75,000 psi and the minimum yield point, as defined in this specification, is 80% of the tensile or 60,000 psi. Actually, cold-drawn steel wire has no yield point in the conventional sense—no sudden excessive elongation. This means that cold-drawn wire tends to resist stress practically throughout its entire strength range without revealing any sudden elongation such as develops in a typical hot-rolled bar. This physical advantage of cold-drawn wire makes it the ideal concrete reinforcement.

2. American Welded Wire Fabric is completely machine prefabricated by electrically welding all wire intersections. The strength of these welds conforms to ASTM Specification A185-58T which requires that the minimum average shear value of the weld in pounds shall not be less than 35,000 multiplied by the area of the longitudinal wire. This high-strength connection assures positive "mechanical anchorage" in the concrete. In fact, laboratory tests reported in the ACI Proceedings, Vol. 48, April, 1952, show that this anchorage is so good that fantastically high bond stress values from 1000 psi to 2700 psi are computed using conventional bond stress theory!

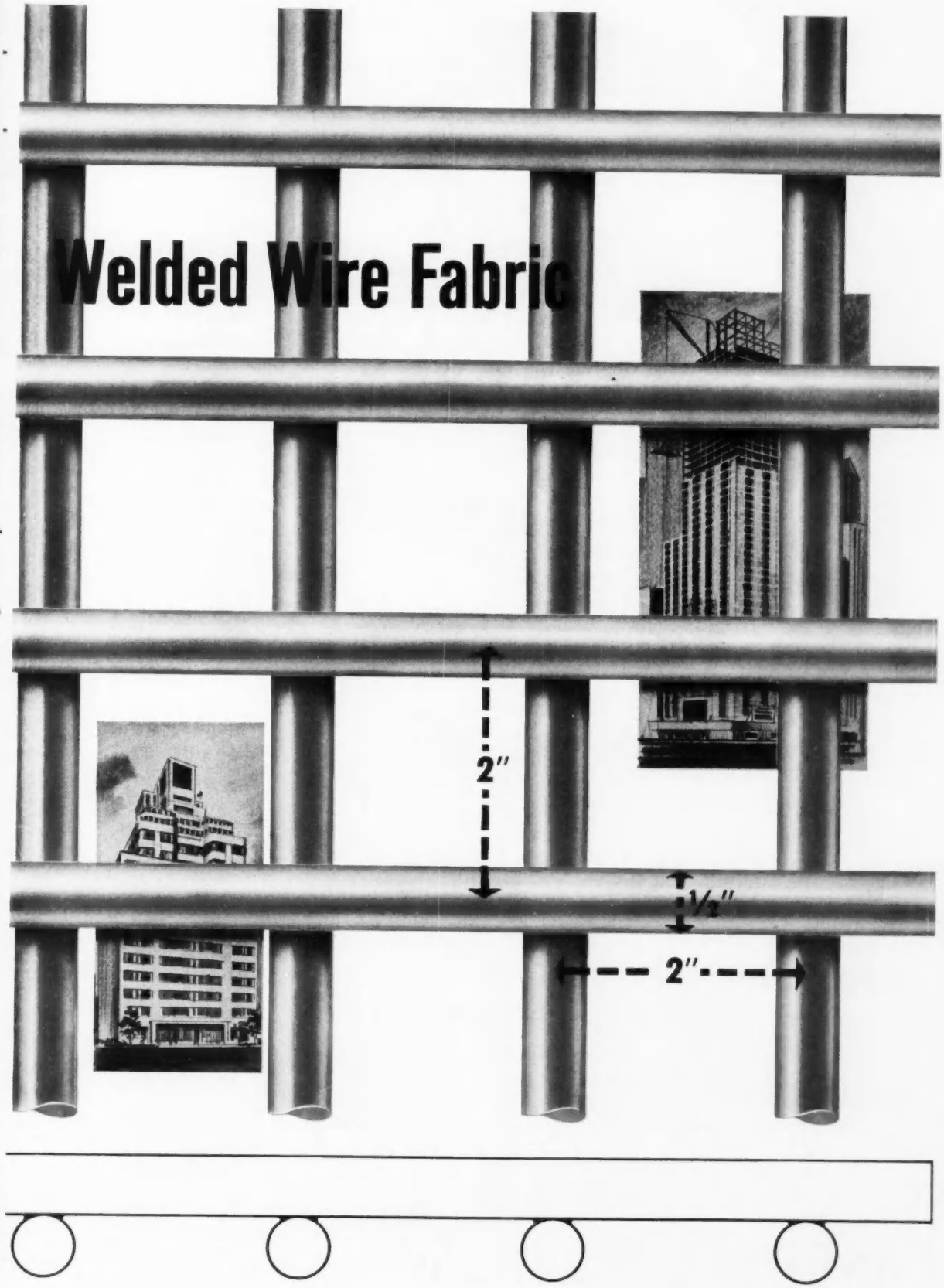
3. American Welded Wire Fabric is prefabricated with greater accuracy than can normally be relied upon in field work. The wires may not vary more than ¼" center-to-center than the specified spacing. This assures correct placement and distribution of the steel. Also, the wires are drawn to the very close tolerance of 0.003".

4. American Welded Wire Fabric requires very little on-the-job tying. Large prefabricated sheets are shipped to the job and placed as a unit. This eliminates thousands of ties and results in important labor savings.

The representatives of American Steel & Wire will be pleased to discuss with you the many advantages and applications of Welded Wire Fabric. Just contact American Steel & Wire, Dept. 0199, 614 Superior Ave., N.W., Cleveland 13, Ohio. *USS and American are registered trademarks*

American Steel & Wire Division of United States Steel

Columbia-Geneva Steel Division, San Francisco, Pacific Coast Distributors
Tennessee Coal & Iron Division, Fairfield, Ala., Southern Distributors
United States Steel Export Company, Distributors Abroad


Welded Wire Fabric
2"
½"
2"



SPRAYED "LIMPET" ASBESTOS has no "or equal." It is the *only* sprayed-on fire-proofing material with a four-hour rating for ½" under a cellular deck—and for 1¾" direct to beams. (Underwriters' Laboratories, Inc.) **SPRAYED "LIMPET" ASBESTOS** is 100% asbestos. It has more *approved* ratings than any other sprayed-on fire-proofing material. It achieves the best *approved* ratings with the least material. No adhesives. No multi-layer spraying or pressing. No equal in quality!



Get more details today. Write to Dept. B-3450 for this booklet. Keasbey & Mattison Co., Ambler, Pa.

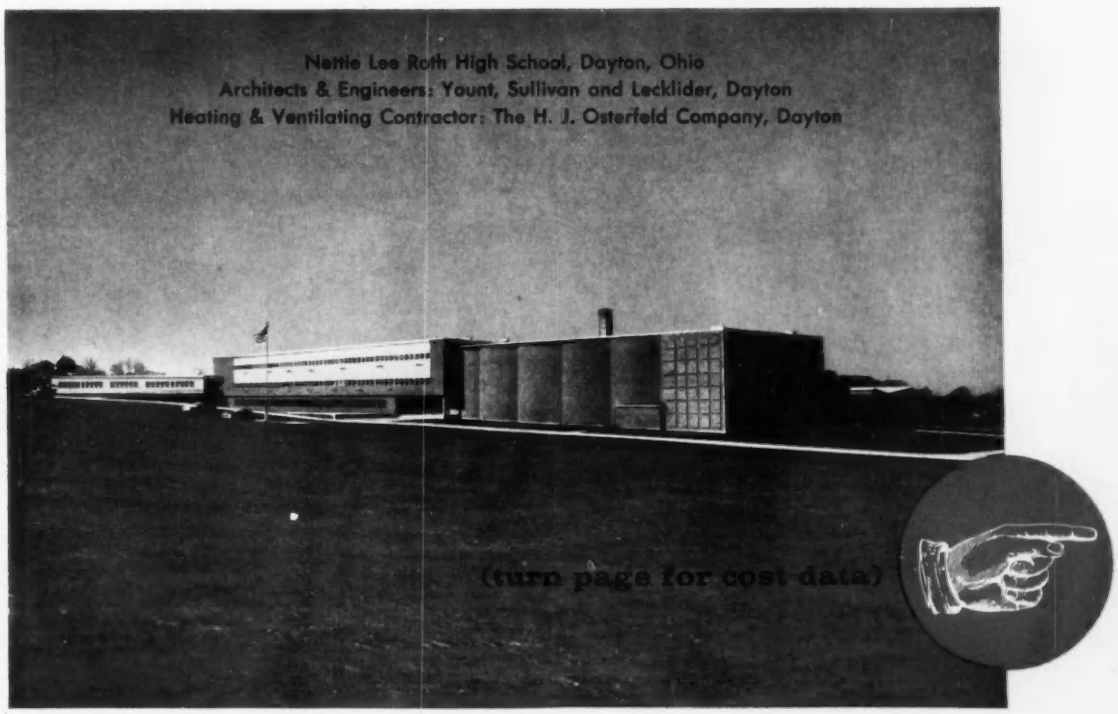
K·M
BEST IN ASBESTOS

KEASBEY & MATTISON AT AMBLER

463rd SCHOOL

selects herman nelson "now or later" air conditioning

NETTIE LEE ROTH HIGH SCHOOL



New architecturally styled *herget-cool III* offers:

OPTIONAL COLOR, OPTIONAL FUNCTION, OPTIONAL AIR CONDITIONING

and Nelson flexibility brings the cost within any school budget

Herman Nelson—*the company that made air conditioning economically practical for schools by providing for it on an optional, "now or later" basis* —now offers brand new unit ventilator styling with *optional color* and *optional function,* too!

OPTIONAL COLOR! Your choice of unit ventilator equipment in six new decorator colors: Flame, Green, Blue, Salmon, Yellow and Neutral Gray.

OPTIONAL FUNCTION! Your unit ventilator accessory equipment can include (1) sink and bubbler unit, (2) sliding-door cabinets, (3) open cabinets, (4) magazine racks, (5) cubicle cabinets, (6) pull-out cabinets on casters, and (7) tote tray cabinets.

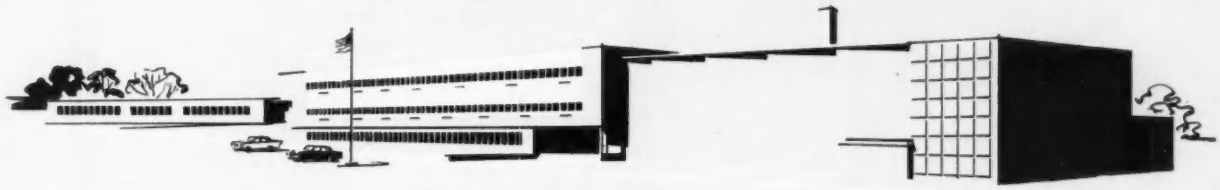
And Herman Nelson options (optional accessories, optional air conditioning) make it easy to tailor your system to fit your school budget.

This new-color, new-function, architectural styling is available on *all* Nelson unit ventilator equipment—whether the equipment provides for air conditioning or for heating, ventilating and natural cooling only.



COST DATA: NETTIE LEE ROTH HIGH SCHOOL

Nettie Lee Roth High School, Dayton, Ohio; Architects & Engineers: Yount, Sullivan and Lecklider, Dayton; Heating & Ventilating Contractor: The H. J. Osterfeld Company, Dayton.



at this price, can you afford not to provide for air conditioning?

The total heating & ventilating cost (including provision for future air conditioning) for Nettie Lee Roth school was $1.41½ per square foot. This cost is in the same range as that for schools in the area that *did not* provide for air conditioning!

And when the school *does* air condition, it can do so simply by adding a packaged liquid chiller in the boiler room at an estimated cost of just 55c per square foot — *about ⅓ the cost of actually installing even the lowest-cost air conditioning system.*

Now, 463 SCHOOLS have taken advantage of Herman Nelson's "now or later" air conditioning idea. They installed HerNel-COOL units at little or no extra cost, can air condition later at a great saving.

At this price, can you afford *not* to provide for air conditioning?





Mail coupon for FREE herman nelson FACT KIT on school air conditioning

Includes information on (1) how air conditioning affects the learning environment, (2) the cost of school air conditioning (including rule-of-thumb estimates you can use in your own planning), and, (3) the equipment for school air conditioning.

herman nelson

SCHOOL AIR SYSTEMS DIVISION OF

American Air Filter

COMPANY, INC., LOUISVILLE, KENTUCKY

School Air Systems Division, Dept. 259
American Air Filter Co., Inc.
215 Central Avenue, Louisville, Kentucky

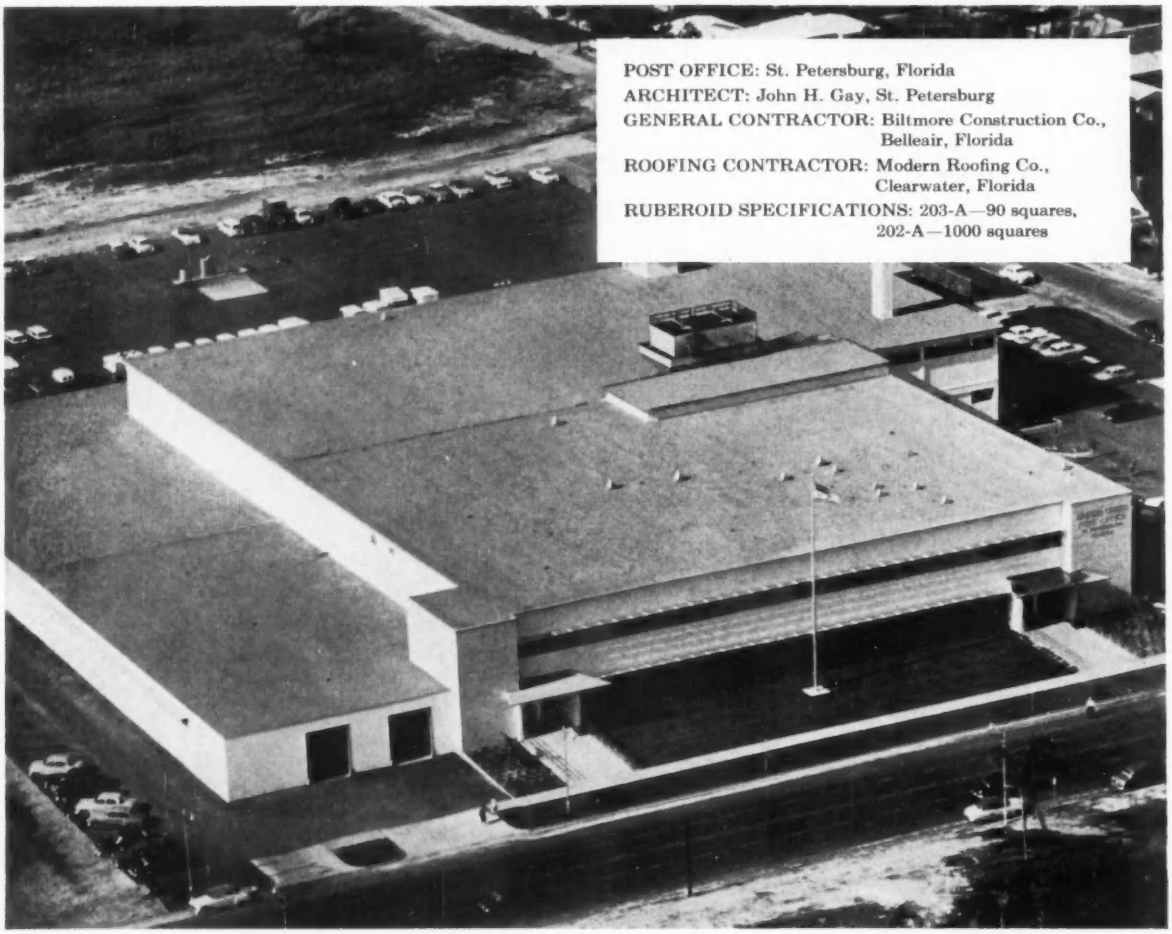
☐ FACT KIT on school air conditioning.
☐ Booklet: The case for air conditioned schools.

NAME_____

TITLE_____

ADDRESS_____

CITY_____ STATE_____



POST OFFICE: St. Petersburg, Florida
ARCHITECT: John H. Gay, St. Petersburg
GENERAL CONTRACTOR: Biltmore Construction Co., Belleair, Florida
ROOFING CONTRACTOR: Modern Roofing Co., Clearwater, Florida
RUBEROID SPECIFICATIONS: 203-A—90 squares, 202-A—1000 squares

What's on top really counts when it's RUBEROID SPECIAL ROOFING BITUMEN



Main Post Office, Kansas City, Missouri. For 27 years—since 1933—a Ruberoid Special Roofing Bitumen roof has provided protection for this Kansas City landmark. Another example of the economy and durability of Ruberoid Roofing.

Special Roofing Bitumen provides rigidly controlled quality for any built-up roof. This alone adds many extra years of weather-tight, maintenance-free service for any type of building.

Add to this quality an engineered application by a Ruberoid Approved Roofer and you'll be assured of a built-up roofing combination that can't be topped in the industry today.

Specify Ruberoid Special Roofing Bitumen on *your* next project for assured all-weather performance and extra economy.

For detailed Ruberoid Specification Data, write: The RUBEROID Co., 500 Fifth Avenue, New York 36, New York.

The RUBEROID Co.®

see our catalog in S or write for copy

Unesco House Appraised

by John Ely Burchard

Jane Davis Doggett



Burchard finds Unesco House successful architectural politics, successful architecture, and successful collaboration between architect, engineer and artist. It is also successful adjustment to an older and complex urban scene. As part of the RECORD'S continuing series on architectural criticism, Burchard discusses these successes, with reservations, and tells how Breuer, Nervi and Zehrfuss achieved them.

ARCHITECTURAL RECORD
MAY 1960

Unesco House on the Place de Fontenoy in Paris was officially opened November 3, 1958, in the presence of the diplomatic corps and representatives of the 79 member states. Since that day, only a year and a half ago, it has been much discussed, has received more brickbats than wreaths. It has been almost fashionable to display literary wit, if not critical acumen, at the expense of these buildings and their related art.

Many mistakes can, indeed, be found and should not be ignored. But the scolding has really to stop at the level of the details and cannot be addressed to the entire concept, as it might, for example, be addressed to the Guggenheim Museum. It is symptomatic of our times that we niggle at contemporary works. No one, except perhaps in the most scholarly groves, attempts to scrutinize the Scrovegni Chapel or the Campidoglio or Notre Dame de Chartres as closely as we scrutinize Unesco, though they too would be vulnerable to such scrutiny. It is true that we cannot do much about Michelangelo now, and no doubt we should observe the work of our own day more closely, if only to keep our contemporaries on their toes. But there are limits beyond which hypercriticism ceases to be useful and even becomes corrosive. This has been the case for Unesco House. It has concealed the fact that this work is one of the most significant of our day.

On the whole it deserves accolades, not barbs. It is a substantial success on at least five counts. After all the mistakes are scrupulously listed, the balance sheet reads clear enough. Unesco House is an inspiration to all architects and artists who seek improvement on the modern stage; it is not a witness of defeat. It aimed high, and its wings were not scorched by the sun.

It is an inspiration because it offers an outstanding example of:

a. successful architectural politics;

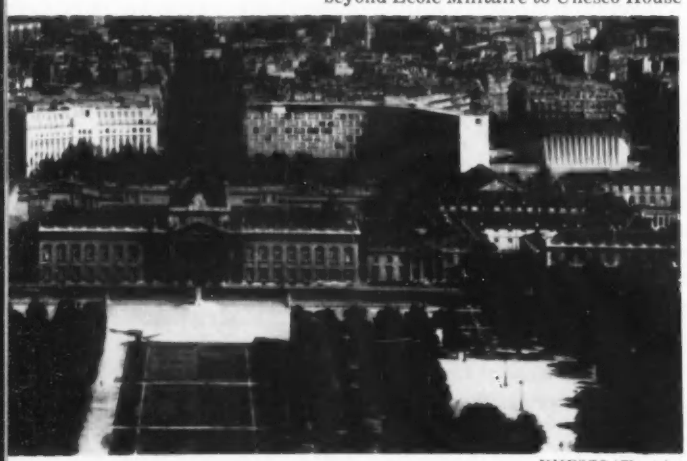
b. successful accommodation of contemporary buildings to an older urban terrain;

c. successful architecture viewed simply as architecture;



". . . It is much to the credit of Breuer and his associates that they achieved an urbane result, which spoke its own language without being disdainful of the weaker buildings on its flanks or of the noble eighteenth century one across the Avenue de Lowendal . . ."

View from Eiffel Tower across Champ de Mars beyond Ecole Militaire to Unesco House



UNESCO/Chevojon

d. successful collaboration between architect and engineer;

e. successful collaboration between architect and artist, and this under especially limiting circumstances.

The Politics

It is too bad that the whole political history of the planning of Unesco House has not been revealed. We need such studies by qualified social scientists so that we may better understand the sociology of architecture. We need to explore the closets of the Air Force Academy and the Guggenheim Museum and the United Nations and other important buildings, private and public. But for the most part, the closets remain locked, and rumor is about all that leaks out of them.

To build for an international organization such as Unesco multiplies the usual political and bureaucratic problem many times. It is a miracle that anything good resulted. There was the site, on the Place de Fontenoy, given by the French Government, a good site but hemmed in by legal and ideological restrictions to the point of frustration. There was the natural desire that a French architect should be involved and a political resistance to appointing Le Corbusier, who is French although he was born in La Chaux-de-Fonds. In these circumstances there was Beaudouin, who was supposed only to make preliminary studies but who carried them very far and with much too willing a compliance with the restrictions so that it was obvious his scheme would not do. All this was producing a great deal of embarrassment and meanwhile the clock was running.

Then the committee of distinguished architectural advisers was appointed, headed by Walter Gropius. It was an international committee, comprising Le Corbusier, Costa, Rogers and Markelius. Distinguished as it was, international as it was, it could not be said to represent all the currents of the day, for its CIAM orientation was patent. But this in itself may be a good lesson in architectural politics. Had the committee been more universal, the chairman might have had to spend too much time in reconciling the internal dissensions; as it was he needed all his time, persuasiveness and statesmanship to convince the bureaucratically appointed headquarters committee and the governments behind it that some startling things needed to be done.

All of this Gropius accomplished with great skill. The French government offered another site, and by this Beaudouin was eased out. Breuer, Nervi and the French architect Zehrfuss were appointed as architects. Working at great speed, they produced a solution for the new site; but meanwhile it became more and more obvious that the original location was much better if only some of the limitations could be removed. Gropius and his committee worked so well on this that in the end they were lifted, and Unesco was erected on the Place de Fontenoy and

at the hands of architects of great talent.

Some people think the committee failed in its largest effort, which was to have Le Corbusier appointed as master architect. They feel disappointed that the greatest living architect did not have a chance to crown his career with this important building. They blame this failure on benighted bureaucrats in the American State Department and elsewhere. No doubt there were many among the politicians who had little enthusiasm for Corbu. But the committee had really estopped itself when Le Corbusier was made a member of the advisory committee. We, who believe in the modern movement, would have been incensed had a committee of traditionalists appointed one of their own number for the main task. We would have been justified. But we cannot have a different code of ethics for the old boys than for us. Le Corbusier should never have been on the committee. Then he might have been appointed and Gropius might have won this battle too.

That Le Corbusier is the greatest living architect must by now be beyond argument. Certainly it is to be hoped that the modern world will give him a great and prominent international chance before it is too late. But we cannot know how well in fact he might rise to such an opportunity until it is offered. It may be that his influence on the world will be quite as great as exercised from remote Chandigarh, Eveux-sur-Arbesle or Ahmedabad and Tokyo as if there to be seen by all on the Place de Fontenoy or at 42nd Street and the East River. Moreover we do not know that he would have done better than the very talented team of Breuer, Nervi and Zehrfuss, which did very well. In the end such a discussion is entirely hypothetical. We are left with the fact that as at Geneva (League of Nations) and New York (United Nations), Le Corbusier was for the third time excluded from the big international symbol; this will remain an ironic note in his biography and an example of failure in architectural politics.

There was one other failure or mistake of a political sort. I cannot call it a defeat, for I do not know how hard the committee tried to prevent it. This arose from the idea, so characteristic of what Unesco regards as international cooperation, that a lot of member nations should contribute to the financing and unfortunately also to the design of individual rooms in the secretariat. There is certainly a higher way of achieving international cooperation than by parceling out commissions among the nations. Even Unesco avoided the absurdity of having 79 different rooms, one for each member state. But the principle, carried out on a smaller scale, remains absurd. The results in the rooms themselves demonstrate this clearly enough. A number of the individual architects, such as Belgiojoso, Peresutti and Rogers, or Philip Johnson, were competent enough men, or even gifted men. But not one of them achieved anything significant in the room he designed. The contrast is startling between the triviality of the *décor* and furnishings of these rooms and those that remained in the hands of the principal architects. The mistake was a simple one—a building should be made by its architect and not by a mixture of other architects, serving only as decorators, selected for reasons of political symbolism, no matter how illustrious each of them may be when he works on his own projects. Such a combination is not "teamwork"; it is anarchy.

Yet these reservations merely point up the fact that the realization of Unesco House in its present form was a great triumph for high cause in the realm of architectural politics and political architecture. Most of this must in the end be credited to the patience, skill and manifest sincerity of Walter Gropius. This elder statesman won one of his finest bays in this encounter. It is also apparent from everything Breuer says that the committee was genuinely helpful to the architect as the work progressed and not an aggressive group of kibitzers.

The Urbanism

Modern architects are often guilty of flagrant disregard of the urban terrain on which they place their buildings. When they build in the country, they may manage their marriages with nature with varying success but none asserts that the natural terrain should be ignored, no matter how recklessly he may invoke the bulldozer in practice.

But when he has a shiny new building to place in a city, on terrain which is man-made, the same man's respect for the environment often disappears. We can all think of examples from Oslo and Stockholm to Park Avenue, from Milan to the Back Bay. The test becomes particularly trying when the architect knows that the surrounding urbanism is in fact not very distinguished, however much it may engage the affections of the citizens. This was the situation on the Place de Fontenoy. It is much to the credit of Breuer and his associates that they achieved an urbane result, which spoke its own language without being disdainful of the weaker buildings on its flanks or of the noble eighteenth century one across the Avenue de Lowendal. In less than a year, Unesco has become a straightforward part of the urban scene as few modern buildings have managed to be; and this despite the fact that Paris is no doubt one of the hardest cities in which to achieve this.

When Gabriel, the architect of the École Militaire and the Place de la Concorde, laid out the Place de Fontenoy, it was not to be a square but rather a semi-circular garden on the front of the most important façade of the École Militaire, just as the parade ground, the Champ de Mars, was to be at the other side. All this was of the eighteenth century. In the nineteenth, the Eiffel Tower was added to the axis at the Seine; meanwhile also the city had built up and the baroque openness of the Place de

Fontenoy had been replaced by barracks and other unimportant buildings fronting on the semi-circle. The ultimate decay of the garden was produced by the seven-story banal buildings built in the 1930's which now house the Ministry of Social Security and the Ministry of Marine, occupying one half of the semi-circle of which Unesco was now to occupy the other half. Good or bad, these buildings could not be torn down. They offered a height scale and a scale of fenestration which could not be overlooked. Nor could the fact be ignored that Unesco House and its related buildings were now to complete the enclosure of the Place de Fontenoy, and that the École Militaire across the way was a very fine building, again of a very different manner. Here Breuer accomplished a triumph of urbanism. Adopting a different curvature for the arms of his buildings that face the Place de Fontenoy, he achieved the impression that the curve of the street was maintained; changing the windows entirely from the scale of the older buildings, he produced nonetheless a harmony, assisted by the fact that he kept the building height the same as that of the buildings across the street. Developing an off-center plaza away from the main axis, he was able to create a free and asymmetric interplay between the southwest façade of the secretariat, the conference building, the free-standing walls, the Moore, the Miró and the Calder works without making any denial at all of the formality and symmetry of the great axis. This achievement is something to ponder. It shows that sensitivity is possible without compromise. It suggests that architects who have failed or have not even tried in other situations have shown themselves to be not greater but lesser men. Tearing down or arrogant disregard is all too often too easy a way for the incompetent or the insensitive.

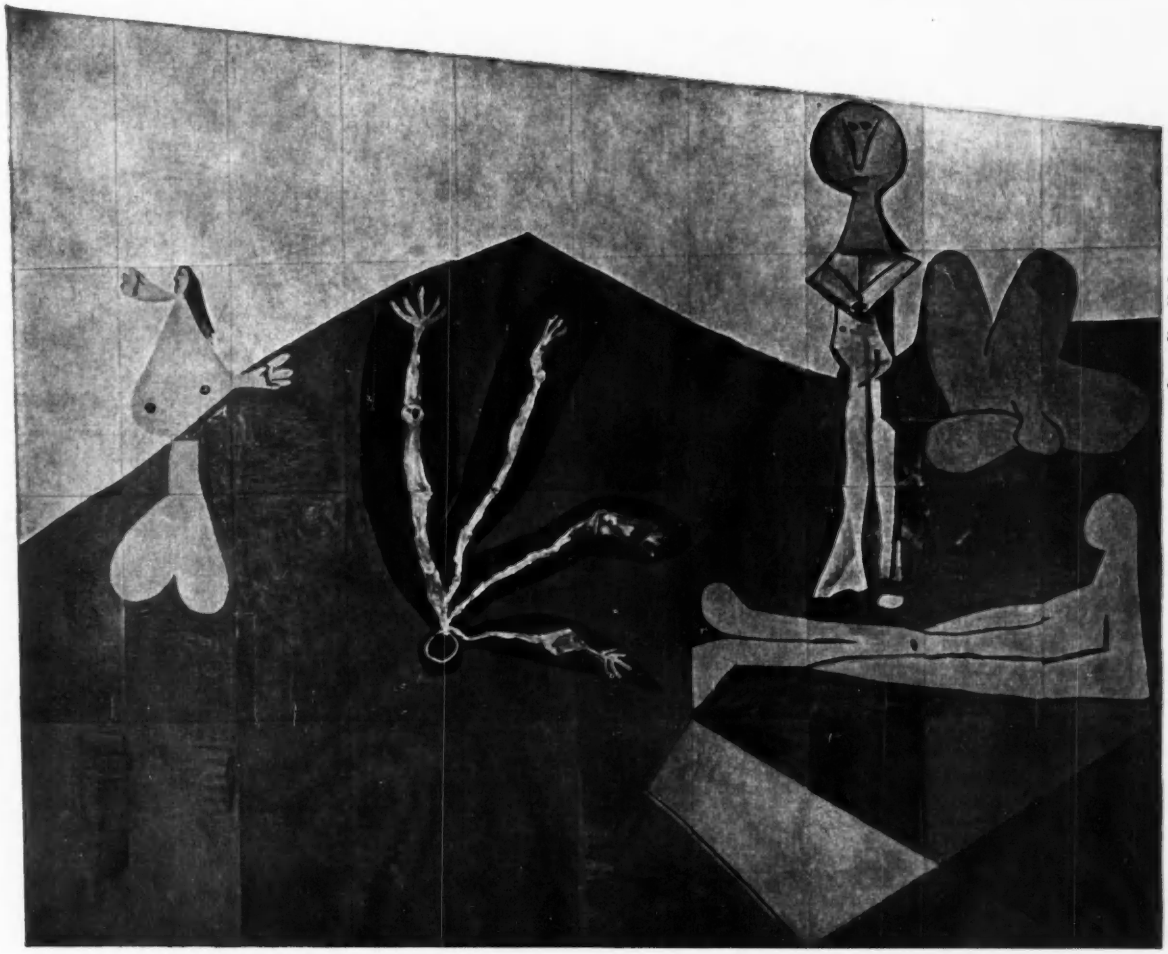
The Architecture

One cannot of course reasonably separate the buildings from the urbanism, from the engineering, from the painting and sculpture. But a few of their aspects can be so observed and they are eloquent. The essential buildings are two, the seven-story Y which houses the secretariat, and the trapezoidally planned, butterfly-roofed conference hall which is connected to the secretariat by the not inconsequential Salle des Pas-Perdus. To these must be added the street walls, the parking lot, the "floating" walls which break up the site a little—on two of which the Miró ceramics are applied—the gardens of Noguchi, and the plot which supports the Moore sculpture. There is also the relatively smaller but not insignificant annex on the Avenue de Saxe.

Each of these elements is quite different in purpose; each is notably different in form; but they fit together in remarkable serenity and unity, much more commodiously, for example, than the elements of the UN in New York. The scale-giving factors of the secretariat are small, save for the unfortunate *porte-cochère*; the monumental scale elements of the ribs of the conference hall are of quite a different order. But these do not struggle for pre-eminence, and the eye and the mind move from one to the other and back with no sense of shock or discontinuity. Of the "firmness," more needs to be said when the engineering is considered. It should be noted here, though, that there is the same opposition between the glass of the secretariat and the concrete of the conference building as is proposed by the scaling elements, but that again this is pleasing, not disturbing, while the occasional use of travertine in both and the occasional appearances of concrete in the secretariat abet this result without being wholly responsible for it. There is no sense of an over-proliferation of materials, though many have been used; no important clash between one and another of the sort which has marred some of Breuer's earlier buildings. Traces of his affection for the violent transition remain in the rough stone of the boundary walls and perhaps in the "floating" walls as well, but it is a tempered affection.

On the side of "commodity," the verdict must be generally favorable. The circulation is readily comprehended and pleasant. The approach to the plenary hall is easy and cheerful while sufficiently impressive. The Salle des Pas-Perdus is a desirable *rendez-vous* marred only by the little curved conference cubicles that somebody dreamed up on a bad night, that offer no real privacy for the conferees although they may afford the wrong kind of bureaucrat the pleasure of knowing that all will be able to see that he is conferring "privately" on what must obviously be a matter of great import. The two main auditoria of the conference building are splendid. The connecting corridor is affable and made impressive by the visible concrete post structure and the explosive Picasso. This is marred a little by an inadequate mezzanine and by a snack bar that seems somehow to be moving in on the more dignified spaces just as it might be expected to do in a half-finished air terminal. Certainly the restaurant on the top floor of the secretariat is brilliantly placed and Breuer was right not to provide it with a continuous window. The outlook over Paris is magnificent, but Breuer will say that one can be fed up with an uninterrupted view and so it was better to provide pictures of Paris framed by the wall of the restaurant, and this argument is convincing.

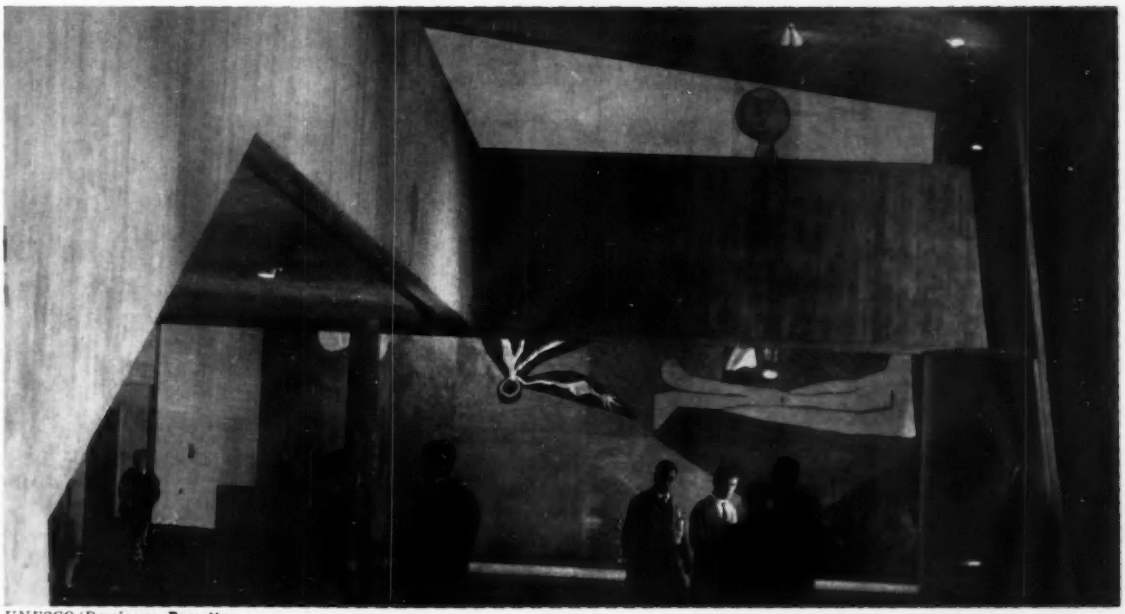
On the larger scale of commodity, one misses an elegant interior stair. To be sure, no one would wish to ascend the full seven stories by stair. In these days, many people, even those who are young enough to do better, use the elevator even to descend one story. But the elevators are inadequate; there is a great deal of vertical foot travel from one story to the one immediately above or below, and for this the walkers enter a typically dingy enclosed stairwell such as one might find in a factory. An important open stair running through the building might



Jacqueline Hyde and Eileen Tweedy

Pablo Picasso. Painting on wood. (courtesy *Quadrum*)

"... the explosive Picasso ... is marred a little by an inadequate mezzanine ..."

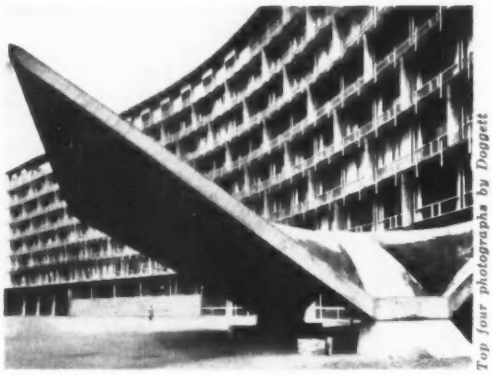


UNESCO/Dominque **Berretty**



"... This delicate stack of cards fanned from the hands of a giant magician is a little too cute ..."

"... canopy ... brusque and graceless and fairly meaningless ..."



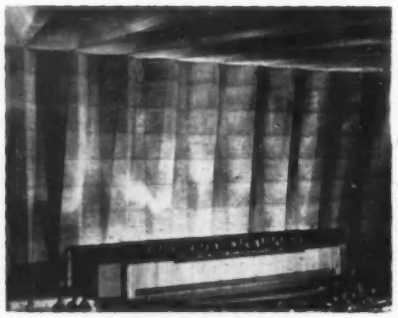
Top four photographs by Doggett



"... piers reach up to grasp at the loads ..."



"... brise-soleil ... better esthetics ... than physics ..."



UNESCO/Dominique Berretty

"... that such people should not appear too magisterial ... a good thing ..."



UNESCO/Anders Holmquist

"... the Arp ... lurks modestly ..."

have been a luxury—but a luxury well deserved. And perhaps it would not even have been a luxury. Modern planning usually forgets that every one does not want to go express from the ground to some remote story and then back down. Of the modern architects, perhaps only Michelucci in Florence is enchanted with the notion that the great stair is an important element in contemporary architecture. It could have served a brilliant purpose in Unesco House.

There are more serious defects of commodity of a kind for which modern architecture has all too often to seek to defend itself (and which it always fails to do convincingly). The building was built on too small a budget. It offers its occupants many of the same distresses that plague those who use Harvard's Graduate Center. The soundproofing is inadequate, almost porous. The doors are flimsy. A host of details above the first floor have been executed too cheaply. They will raise serious maintenance problems in a very short time. It is never easy to say who is to blame for such defects which are absolutely inappropriate for a building of the importance of Unesco. Did the client have too large an ambition for his purse? Was the architect delinquent in trying to do too much for too little; did he have a sure understanding of what the costs would really be? Such questions plague architects all the time, and plague their clients more. From the frequent bad results the public continues to feel that architects are incompetent or deceptive in this respect. But there is sometimes a fourth explanation. The client may be a tightwad. This must have been the situation at Unesco. To plead that the member nations could not have afforded one more million dollars to add to the nine-odd would be absurd. Who was stingy is harder to say. Was it the Unesco bureaucracy itself; was it an American delegation fearful of the Congress; was it an American Director General who has never seemed to have much understanding of or affection for the arts? Did Torres-Bodet give over the reins at an unfortunate moment in the history of Unesco? I do not know, but that there was over-frugality is patent. Much the same thing happened to the arts for which only $191,000 was appropriated.

But there is one serious defect of commodity that can be blamed only on the architects. The secretariat is not really prepared technically to cope with the sun which often beats upon it. It is not air conditioned. The colored glass is not effective enough as a shield. The *brise-soleil* seems to be better esthetics than it is physics. This building is another testimony to the unfortunate nonchalance with which a number of the world's finest designers talk themselves and then their clients into things that may look well but that are quite wrong in a practical sense. For some buildings the eloquence of the appearance may compensate the occupants for their discomfort. In some cases the impression on the transients can even

be held in higher esteem than the convenience of the occupants. But the secretariat is not such a building. Neither are a number of others of our most admired buildings. The fetish of glass seems to be a difficult one to exorcize.

But despite this really black mark on the ledger, the balance of the commodity is overwhelmingly favorable.

On the ledger of delight there are fewer debits. There are one or two positions on the Avenue de Lowendal whence the proportions and scales and even the forms of the secretariat and the conference building seem to clash, but they are few. The flaring concrete canopy on the Suffren elevation, which shelters the main formal entrance to the building, is brusque and graceless and fairly meaningless too. To reach it on foot from any conveyance, one must have walked great distances and have been so thoroughly drenched by the rain, baked by the sun, or buffeted by the wind that the last haven is inadequate relief, only a step or so away from full relief inside. Of course state processions may be scheduled only for fair days; of course most visitors will come to the back door by taxicab and be able to come in comfortably under a less spectacular but more handsome canopy whose soffit ribs lace the ceiling like a modern version of a mediaeval fan. That this back door is on the front, that is, on the Place de Fontenoy, is not a criticism. It is reasonable that the finest vistas of the Unesco complex should be reserved for those who are in it. Even some of these may be questioned.

The baffle walls seem to rise capriciously from the inner lawn, and the explanation that they conceal the parking is inadequate and not even quite true. There seems no overwhelming esthetic logic for opening up three bays of the Nervi structure at the west end to offer a sort of porch not much related to any principal use, beneath which the Arp sculpture lurks modestly. The narrowness of the arms of the Y may have paid a little too much price to delight so far as the library, at least, is concerned. Then there is the obtrusive little spiral stair applied at the center of the inner curve on the Avenue de Saxe elevation as an answer to a Parisian requirement for an outdoor fire ladder. This delicate stack of cards fanned from the hands of a giant magician is a little too cute, a little too charming, a little too trivial in a building of this sort where, if there are to be architectural jokes at all, they should be robust.

But these remarks are precisely the sort of niggling to which I objected in the beginning. The major elements of the building do fit well together, the general scale, proportions, form, texture and colors are very ingratiating; the vistas of the lobby, framed usually by the majesty of Nervi's pillars, are so fluent and so commodious, the great details, such as the inner and outer end walls and the roof and ceiling of the conference hall, are so grand that demurring footnotes need to be added mostly to demonstrate that the observer has not been swept away by an undiscriminating enthusiasm.

The Engineering

Much the same things can be said of the engineering. There can hardly be any doubt now that Pier Luigi Nervi is the greatest living architectural engineer—the most imaginative, the most restrained, the purest, the most sensitive. Some think he is at his best when allied with a talented architect, such as Breuer at Unesco or Ponti at the Pirelli Building in Milan (Nervi thinks these two men are his most understanding collaborators). Some think he does best when he works mostly alone, as in the ill-fated hangars of Orvieto or the various stadia and circuses of Rome. This question need not be answered to know that architect and engineer worked together at Unesco at the top of their talents. The arguments of dull-minded people that the most efficient span may not have been chosen are quite irrelevant. Engineering is not only a matter of span and pounds of cement and tons of reinforcing steel. There is also the matter of poetry. This engineering is economical enough. A less imaginative solution might have yielded savings that were measurable only in small quantities of pre-de Gaulle francs. This engineering is beautiful, and the building deserved the engineering it got.

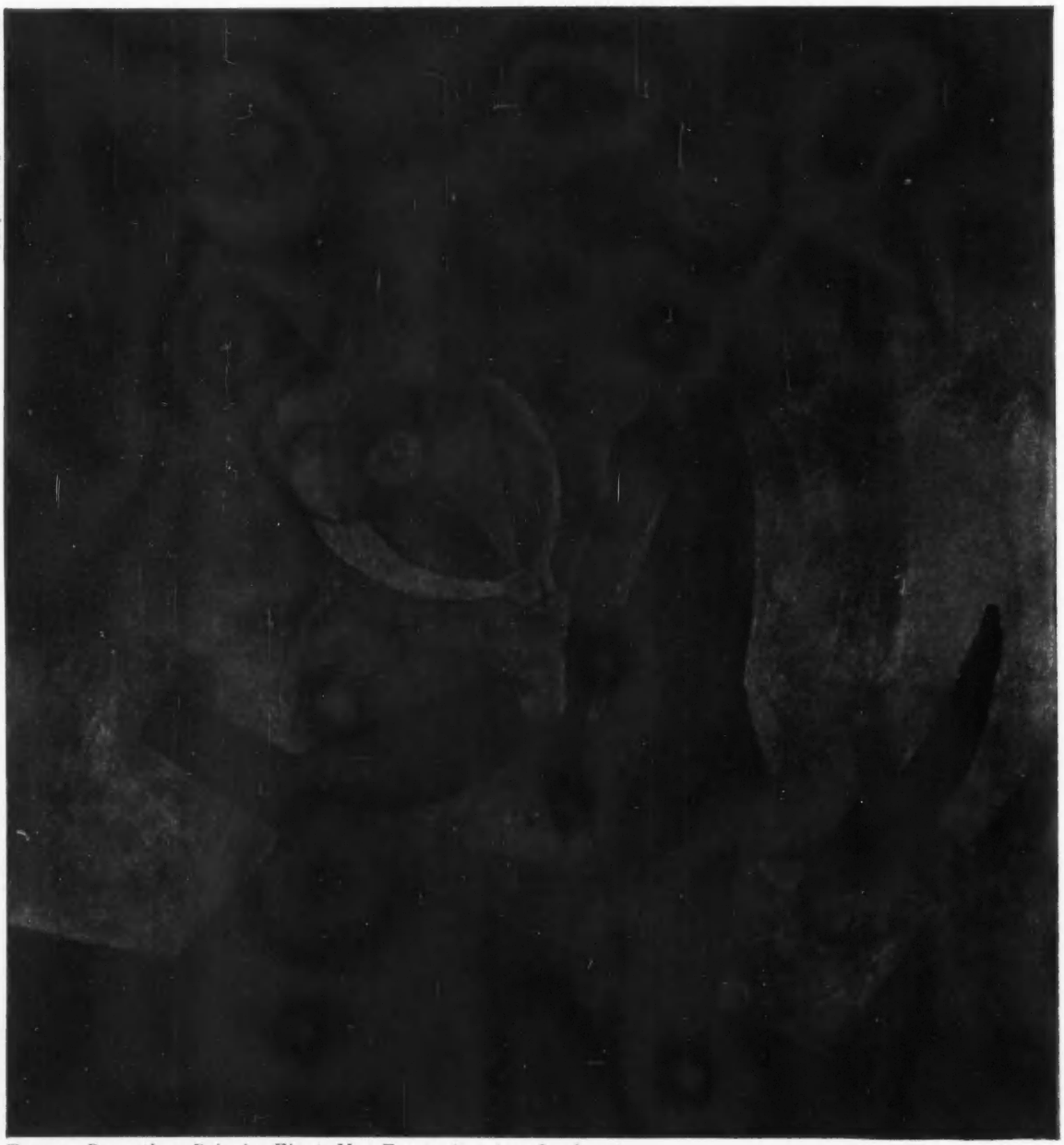
The structures are Thomistic, like almost all of Nervi's work. Articulation is almost always clear. The piers reach up to grasp at the loads that can be seen to be coming down to the ground. As they near the ground, the concrete becomes perceptibly heavier and one feels that the whole building sits solidly on the earth, as of course it should, for it is not an airplane and neither is any other building, literally or symbolically. Nervi never tries for more. He is not interested in engineering gamesmanship. He is not interested in being the obedient servant of the whimsy of a clever designer seeking above all for innovation. His architect was fully *en rapport* with such views. I think the structure of the secretariat was perhaps at its happiest when it could all be seen, as it cannot be now that the glazing has been applied and some of the interesting ceiling structures covered over with soundproofing. But we can sense what it was like as we stroll through the ground-floor corridors or in the open bays at the west. This is perhaps enough, although a more telling revelation was probably achieved by Ponti in the Pirelli Building.

The conference hall encourages no such reservations. Here the engineer and the architect have produced a clear masterpiece. The roofs are necessary and impressive. The end walls are majestic with their great ribs of concrete. All this comes to a climax in the interior of the plenary hall whose front wall and whose ceiling work majestically and powerfully upon each other, and very dramatically, too,



Miró and Artigas. *The Wall of the Sun.* (courtesy *Quadrum*)

Jacqueline Hyde and Eileen Tweedy



Tamayo. *Prometheus Bringing Fire to Man.* Fresco. (courtesy *Quadrum*)

Jacqueline Hyde and Eileen Tweedy



"... Tamayo's Prometheus *has a more obvious symbolism, and is a brilliant red-on-red fresco by a brilliant modern painter ... It does belong where it is and it does say something of the things that might be said, although right mystically ..."*

though not melodramatically. The brilliance of this wall does offer some difficulty for the scale of the dais and the people who sometimes sit behind it, but that such people should not appear too magisterial is no doubt a good thing. The present dais and lighting have not solved the problem of how these people are to be related to their backdrop, but this is not impossible of solution.

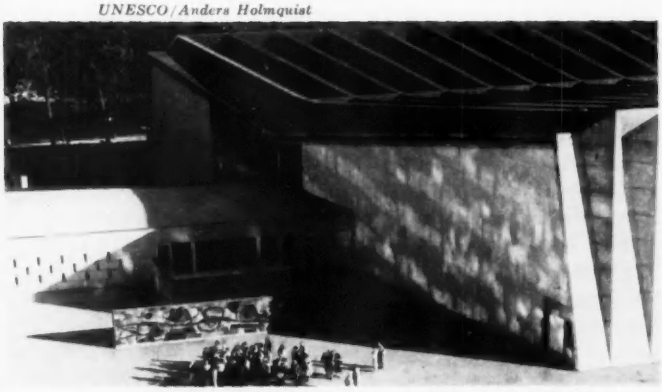
The Art

The art has no doubt caused the most controversy and has most generally been castigated, but this too has been unjust. Certainly the various pieces range widely in quality. Certainly not all the locations are equally appropriate. Certainly there was no clear collaboration such as obviously existed between the architect and the engineer.

Unesco-ship was played, perhaps inevitably, in the selection of the artists. Nations had to be represented, and this meant there could not be more than one artist from any one nation. This is hardly the way to pick a first team. If modern art were to be used, and it was generally agreed that it should be, then it was thought safest to engage only men whose positions as modern artists were beyond controversy. This is not always the way to pick a first team, either. Moreover, the choices had to be made by a Unesco art committee selected also to be geographically representative. Names for this committee were suggested by the architects and also by the national organizations, and from these the Unesco administration put together the committee: Parra Perez from Venezuela, Georges Salles from France, Sir Herbert Read from England, Shahid Suhrawardy from Pakistan, and Sanchez Canton from Spain. Not all of these men have failed to be doctrinaire in their previous judgments, and Read, at least, is known not to believe that modern art necessarily has a useful role to play in modern architecture. But they behaved in exemplary fashion. Augmented by two architects, Zehrfuss and Ernesto Rogers, they worked a-politically, quite impersonally, usually unanimously.

Picasso, Léger, Miró, Arp, Noguchi, Calder and Moore were selected in the beginning to work within

UNESCO/Anders Holmquist

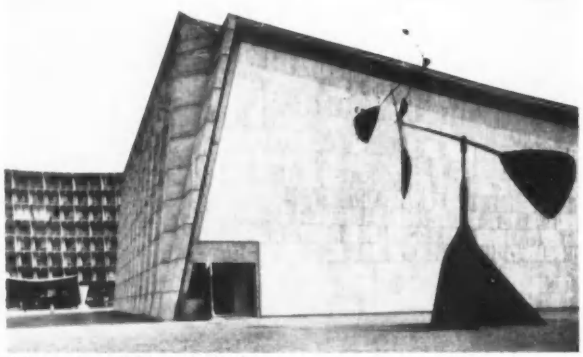


"... Miro's admirable work is not in the best possible place, although no location was given more thought ..."



Afro. *Garden of Hope.* (courtesy *Quadrum*)

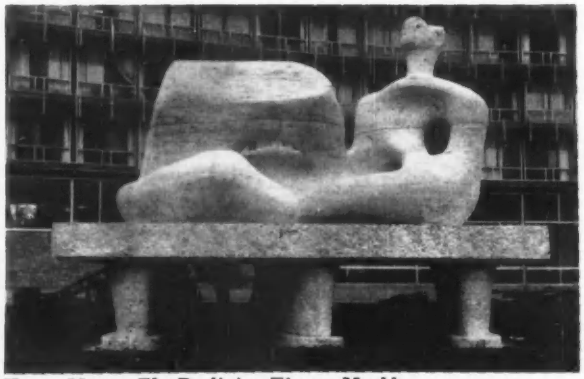
Jane Davis Doggett



Alexander Calder. *Spirale.*

"... the juncture of first class work with first class location happens ... for Moore ... Calder .."

UNESCO/Volta



Henry Moore. ***The Reclining Figure.*** **Marble.**

the two per cent of the budget allocated for art. Léger, unhappily, died that summer. Later the City of Paris provided additional funds and Tamayo, Afro and Matta were added. In the end these were joined by Appel, Brassai and Bazaine to make a round dozen.

The major locations for the major works were set down early in the scheme, but by assignment from the architects rather than as the result of collaborative discussion. There seems little doubt that the artists were selected too late to permit of an ideal collaboration. Calder's, Tamayo's and Matta's works ultimately were placed in different locations than called for in the original plan. The most notable of these shifts was that of Calder's mobile after he and Noguchi violently objected (and with reason) to having their works juxtaposed.

The artists showed different degrees of concern for the building they were to adorn and enhance. Henry Moore was characteristically attentive to the point of recalling the materials of the building in the travertine of his sculpture, and the horizontality of the secretariat with his entire composition, while bowing to the reflectance of the façade with his penetrations. Picasso on the other hand was aloof; he never visited the building at all but relied on a model to understand it and produced his mural on prefabricated panels far away and in the quite different light of his studio near Cannes. Calder's mobile was made in Connecticut; Miró and his ceramicist Artigas worked in Majorca and Spain.

The artists too were sometimes plagued by small budgets. At some point Arp is said to have consented to accept the economy of having his great bronze castings, which look like cut-outs, appear in a black finish which makes it hard to tell whether they are of wood or stone or metal. The Picasso materials,

Jacqueline Hyde and Eileen Tweedy



"... pleasant but of modest interest ..."

both of the panels and of the paints, seem not very durable, but this may have been by design.

Of the dozen, it can also be claimed that half are first class works, four of the second class, and only two really weak. But the juncture of first-class work with first-class location happens in only three instances, that is, for Moore, Bazaine and Calder. Miró's admirable work is not in the best possible place, although no location was given more thought. Tamayo's and Arp's works, good of their kind, might have had better places. Picasso's important painting has a highly strategic location and occupies it richly, but whether this is first-class Picasso can probably not yet be established. Noguchi's garden, bigger than many of his efforts and not gaining thereby, certainly has a strategic setting and is good Noguchi, but this does not necessarily mean that it is first class. Nonetheless, one can say that eight of the dozen works are genuine successes, given an averaging of quality and location. The Afro *Garden of Hope* is pleasant but of modest interest and weakly located; Brassai's photomural is a sensitive portrayal of reeds and water but it is still a photomural, and by its excellence simply drives home the point that photomurals are not very convincing at large scale and as part of an important and serious building. Appel's *Rencontre au Printemps* is suitable for a restaurant. Much the same can be said for Matta's *Hypertension*. It sits on a wall where it cannot be missed and it is pretty. But not much more. It might have made a good cover for *The Scientific American* or *Fortune*.

The highest marks must surely be given to Henry Moore, whose attention to the surrounding buildings I have already noted. This is a sculpture which is effective from every point of view, which works well with its various backgrounds, which is in scale with and in sympathy with the architecture; and which may, moreover, offer a symbolism that has something to do with what Unesco stands for. It shows very clearly what is possible when the artist and the architect are really *en rapport*.

Picasso's mural is so spectacularly located in the delegates' foyer on the way to the main conference hall that no one can fail to see it. It is in good scale with its room and in good color relation with the floor and walls and ceilings, while also being rich enough so that it looks well even when part of it is cut off by a structural element. As striking decoration it is a complete success. The plastic expression, the animation, the rigor of the composition are all first rate. It is an amazing demonstration of genius that this could be achieved so remotely.

What the symbolism of the bathers has to do with Unesco, I do not understand; but no doubt there will be long essays about this in good time (or may already have been, for all I know; I am pretty sure Picasso will not write them). Thus of the Picasso work we must say that if its only purpose was to enrich the surroundings of an important room the purpose was achieved.

Tamayo's *Prometheus* has a more obvious symbolism, and is a brilliant red-on-red fresco by a brilliant modern painter. One sees this as one leaves the smaller conference hall. It does belong where it is and it does say something of the things that might be said, although right mystically. It is however a reasonable marriage of painting and architecture which is even measurable in terms that the men of the Renaissance would have understood.

Miró's ceramics, executed by Artigas and describing a *Wall to the Sun* and a *Wall to the Moon* (see cover) are no doubt among this artist's greatest works. They mark a return to his earlier sobriety, which seemed to have been sullied sometimes in the later years by merely clever work set in commercial places. Simply as works of art they stand, no doubt, with Moore's sculpture. But the location of the walls seems capricious, they are so low that it is hard to look at the work, and altogether the effort to see is more than it ought to be. It is not greater than the problem of seeing in the Sistine Chapel or of looking at any Renaissance ceiling, but we should have learned how to make such contortions unnecessary by now. Monks may rent mirrors in the Scuola san Rocco; it would be inappropriate for the Unesco staff to go about renting periscopes.

Bazaine's gutsy mosaic, big in scale, brilliant in color, rough-hewn with its rugged projections of big broken tesserae, is an exciting work of much greater power than the Noguchi garden which it backs. Calder's colossal "Spirale," more than thirty feet high and made up of a few large elements tapering to the crowning small triangle, is one of his most important mobiles. It is particularly fascinating to watch it whipping about in a stiff wind, but no doubt

Weill (courtesy l'Architecture d'Aujourd'hui)



"... the Noguchi garden ... suggests a serious clock golf course ..."

it is quite as fine, though different, in a zephyr. It is a little out of the way and many people will see it only after a pilgrimage, but it is worth the trip.

These are the most important pieces. Noguchi's garden, a big piece, gains something genuine from the importation of Japanese stones, which at first hearing seems like a piece of corny sentimentality. It does have many fine details, especially *l'Insigne du Paix*, and one cannot say that the whole does not hang together. But not much more can be said without remembering that it suggests a serious clock-golf course. It might quite as well have been in some other city and serving some other building. I cannot find in it anything so profound as "the new alliance between architecture and space," whatever that means. The older message that Japan so often suggests, namely, that natural forms are wonderful, even when stylized and manipulated artificially to provide an abstract summary, appears here, but less convincingly, and with less purity than in more traditional Japanese work, particularly that of many centuries ago. It is all very pleasant and adds something to the building. But it could be replaced by a different garden without disaster to the building and it could place itself somewhere else with no disaster to itself.

Arp's work is good Arp, but perhaps he has not much new to say these days. His cut-outs seem to have no more reason to be at Unesco than at the General Motors Research Center or in any first-class shopping center.

In fact, the Arp and the Noguchi point out where the Unesco art has most failed. Most of it could be almost anywhere else and serve quite as well. Few of the works say anything about Unesco and its purposes as, for example, the Romanesque and Gothic sculptures and the Renaissance paintings speak of the meaning of the buildings they aggrandize. Perhaps there is nothing to say about Unesco. Perhaps no one can articulate what there is to say. Perhaps art is no longer the way to say anything more than what the personal whim of the artist may dictate. If so, one might question whether any of the personal statements were important enough to justify such a central rostrum. At any rate, the end result is that not very many works of art seem to belong to a particular building which would be diminished, as they themselves would be, by their removal. This is unhappily the situation for most of the work at Unesco—most but not all. It is not so for Moore, for Picasso, for Miró; it may not be so for Calder.

Another failure is that if the art is viewed collectively, one cannot see any firm cohesion between the several works and each other, or between them collectively and the building. It is as if the building were the only common factor; as though it had reached out twelve mutually independent tentacles, grasped a work of art in each, and then held them firmly away from each other lest they should have any mutual attraction. But a Unesco secretariat is not, after all, an art gallery. Merely to have assembled a string of works, no matter how individually admirable, is not to have produced a collaboration between architecture and art.

The political conditions surrounding the selection, the unimaginative postulates of Unesco as to how internationalism may be symbolized—that is, by an array of names drawn each from a different nation —these limitations undoubtedly contributed to inhibit the marvelous result that might have occurred had Breuer and Nervi been joined, say, only to Moore and Picasso, or Moore and Miró, or best of all perhaps to Moore and Léger. But this could not be. And even then the miracle might not have been consummated unless the cooperation had been as complete and had begun as early as the cooperation between architect and engineer.

Is such a collaboration ever going to occur in the modern world? It is hard to be confident that it will. Many buildings by their programs or their ideology cannot legitimately be hospitable to the try. Many contemporary architects, indeed almost all of them, are utterly unsympathetic to the try if it involves them in yielding any of the driving reins to the painter or sculptor. Unesco was a building that did offer such an opportunity. Breuer was the right kind of architect for such a venture. Viewed in this light, the disappointments of Unesco House may seem too great to accept. But this, I think, is too dismal a view. The successes are transitional and partial, but Unesco House is nonetheless the best thing of this sort that modern architecture and modern art have yet achieved (one excepts such unities as Matisse's chapel at Vence or Le Corbusier's solo flight at Ronchamp). That Unesco House has set this mark is the note to rest on, because it should encourage others to see what has already been attained and to aspire to what remains in the realm of the possible. Pursued with enough ardor, the goal of the magnificent *collaboration* will yet one day be reached.



The Loeb Student Center
New York University
Washington Square Center
New York City

Harrison & Abramovitz, Architects
Edwards & Hjorth, Structural Engineers
Jaros, Baum & Bolles, Mechanical Engineers
Ebner Associates, Electrical Engineers
George Nelson Company, Interiors
Caristo Construction Corp., Builders

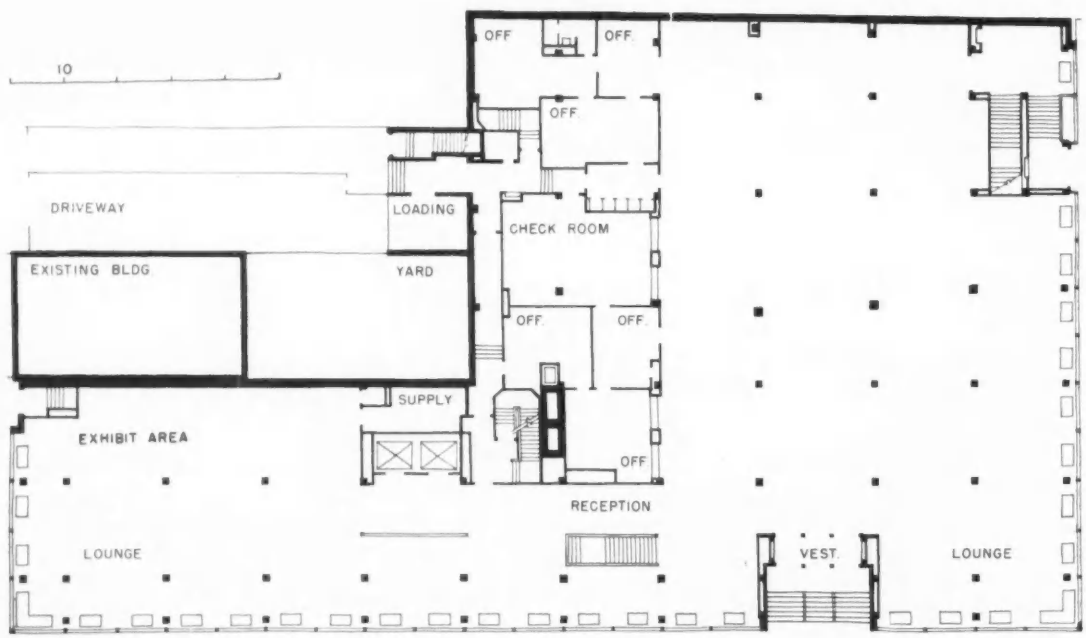
STUDENT CENTER FOR BIG CITY UNIVERSITY



NOTE ON THE INFLUENCE OF ARCHITECTURE:

The Loeb Student Center has added an attractive visual note to the Washington Square scene, and has also—more remarkably—wrought an improvement in student appearance, according to University officials. Those old sweaters and open-neck sport shirts seemed out of place in the smart new surroundings, and have been widely replaced by jackets, neckties, and more careful grooming. Evidence, it appears, that people will—given the chance—rise to their environment.

The super "student union" has in fact created a whole new campus atmosphere in New York's old Washington Square park; additional trees and planting have been set in, and a general toning up is in progress. The $5 million building, financed in part by the Loeb gift and in part by the College Housing Loan Program, was designed to conform to the general character of the neighborhood. Red brick and limestone—predominant existing materials—were used; the scale and arrangement of the three elements that form the building were carefully considered in the light of the surroundings. These three elements (see page 157) consist of the spreading, one-story "platform" of lounges and reception area; the irregularly-shaped auditorium wing; and the nine-story block of student activities offices and meeting rooms. Principal areas are oriented to the park view.



FIRST FLOOR

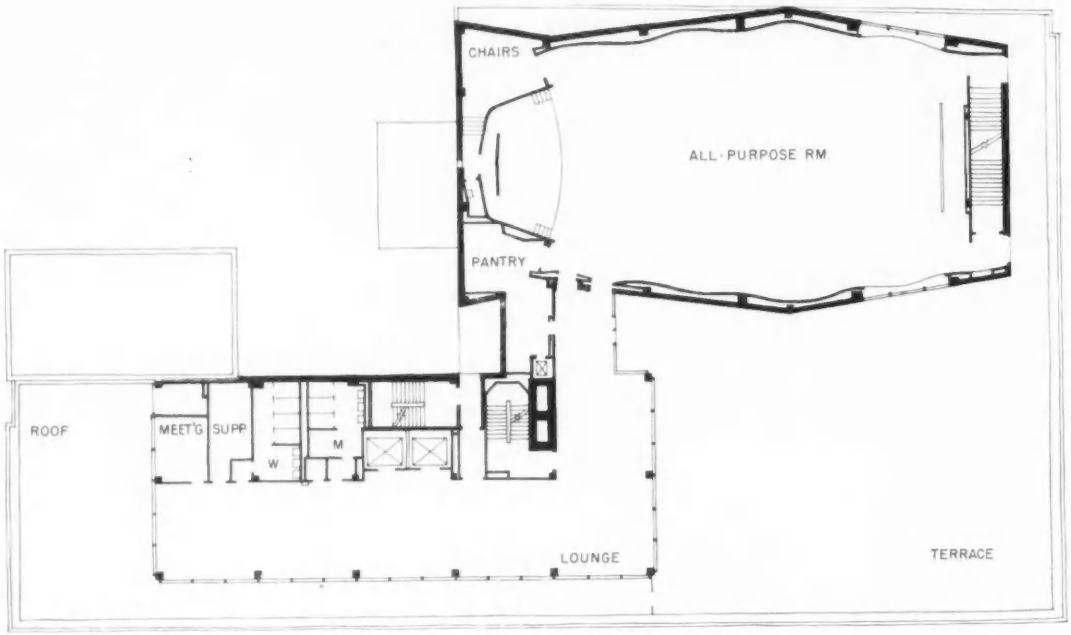
All photographs by Joseph W. Molitor



Loeb Student Center

The smartly furnished lounges at ground level—dubbed the "living room"— are directly served by a cigarette and candy shop, as well as by a check room. Offices of the director are also at this level. A flexible exhibit area occupies a portion of the smaller lounge. Since the building is used daily by approximately 6000 students, control (against "characters" from nearby Greenwich Village) is maintained by a doorman stationed at the first floor entrance.

A large cafeteria and smaller snack bar are housed in the space below, which is raised slightly above grade to provide continuous natural lighting on three sides of the building

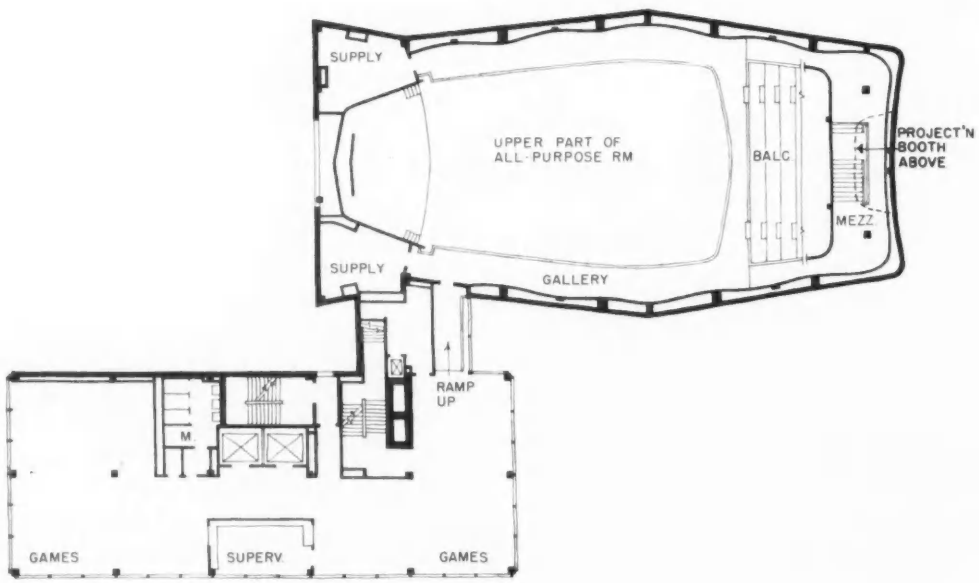


SECOND FLOOR

Loeb Student Center

The Eisner-Lubin auditorium, appropriately called an "all-purpose" room, serves handily for a variety of uses. Removable chairs seat 1000 for plays, movies, concerts and lectures; the room is also used for dances, parties, and receptions. The adjoining pantry takes care of refreshment service. Acoustical control is provided by the serpentine red brick side walls (which are laid with open vertical joints) and the undulating ceiling of wood slats, veneered with natural birch. The public address system can be connected to speakers throughout the building.

The second floor of the office block is occupied principally by a lounge; the corresponding third floor area houses rooms for billiards, table-tennis, darts, card games, etc.



THIRD FLOOR











Loeb Student Center

The second floor lounge (top), which opens to a roof terrace facing the park, is quieter and more intimate in character than those below. It is carpeted in beige; the furniture is upholstered in orange-red plastic; the curtains are of spun-glass fabric.

The fourth floor luxury restaurant (center), called the "Top of the Park," is carried out in white and gold; is carpeted and has an acoustical tile ceiling for sound control; and opens to its own terrace facing the park.

The bottom photo shows a bank of four adjoining meeting rooms at fifth floor level, which can be used individually or opened together into various combinations as occasion demands

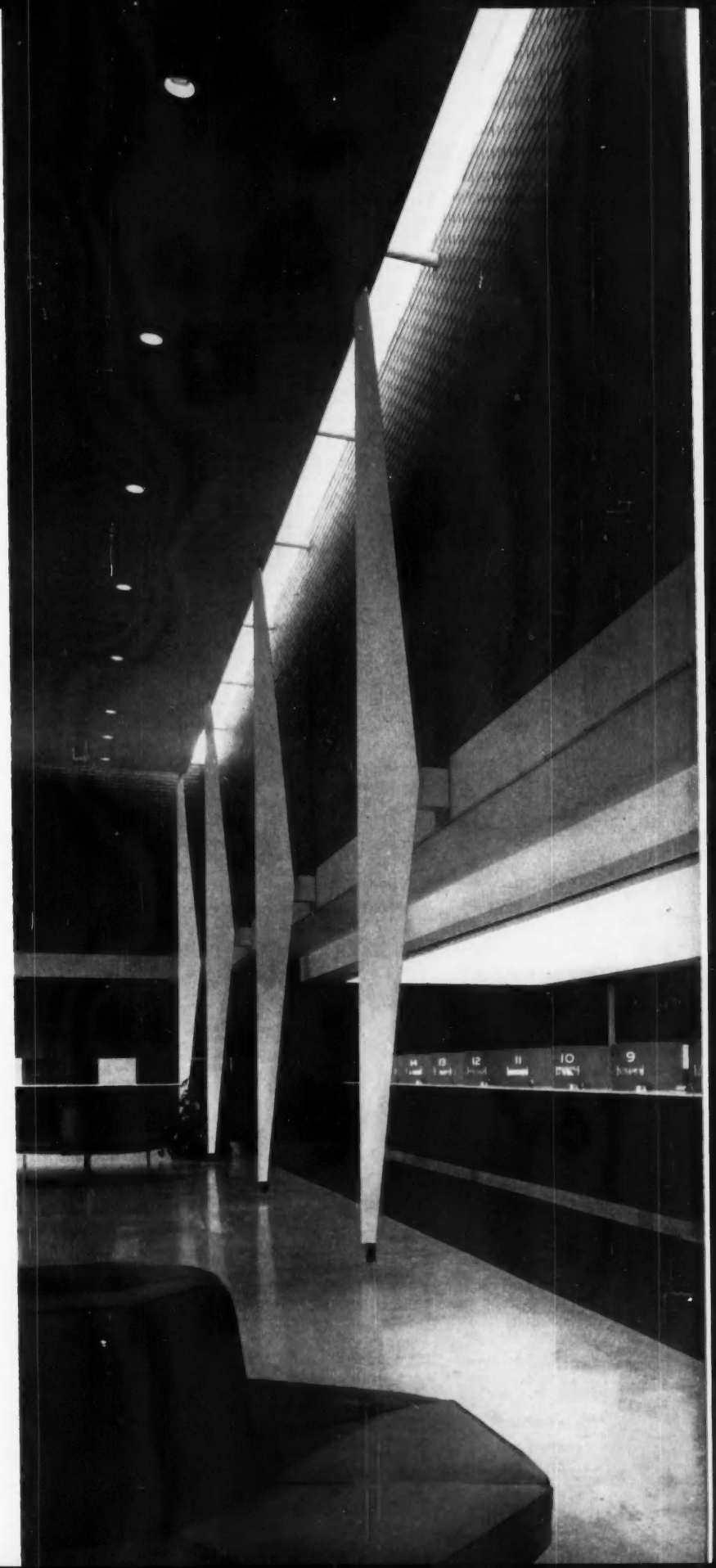
THE USUAL MADE UNUSUAL

The State Bank of Clearing
Chicago, Illinois

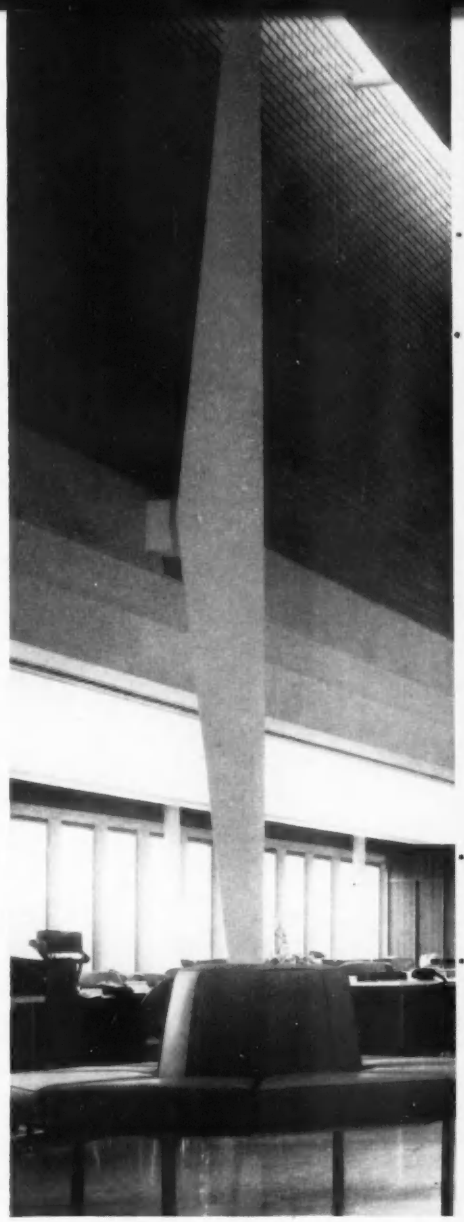
Harry Weese & Associates
Architects

Frank J. Kornacker
Structural Engineer

Samuel R. Lewis
Mechanical Engineer



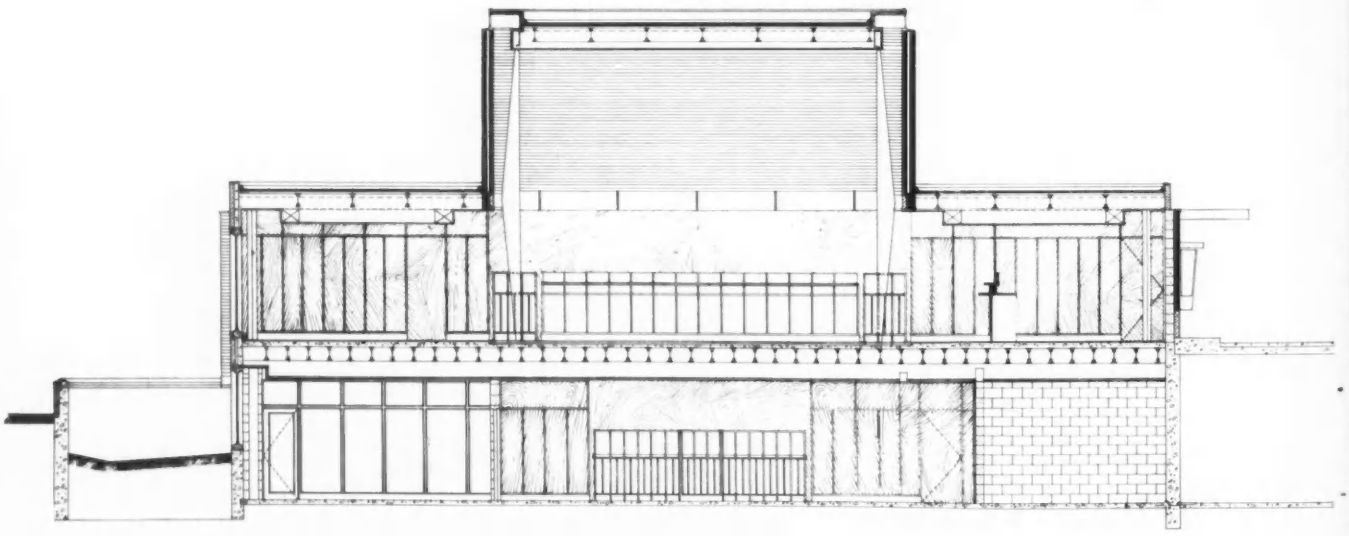




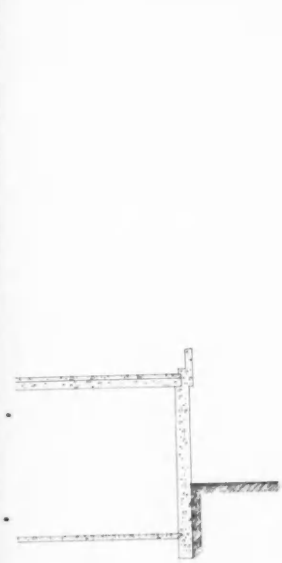
State Bank of Clearing, Chicago

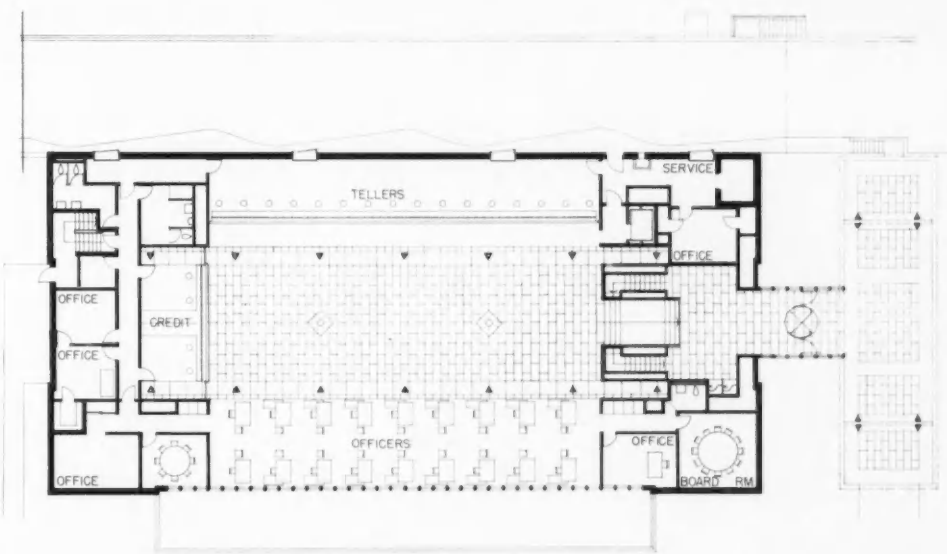
The aim was to create a dignified banking space that would reflect the stability of the institution without being formidable in character; to employ also natural materials in such fashion that maintenance is minimum and the door remains closed to the decorator who would "redo" the bank every several years. The main space is thus carried out in brick and natural wood, with vinyl-asbestos and carpeted floors, and has a suspended plaster ceiling which is independently supported by a system of exposed concrete bents.

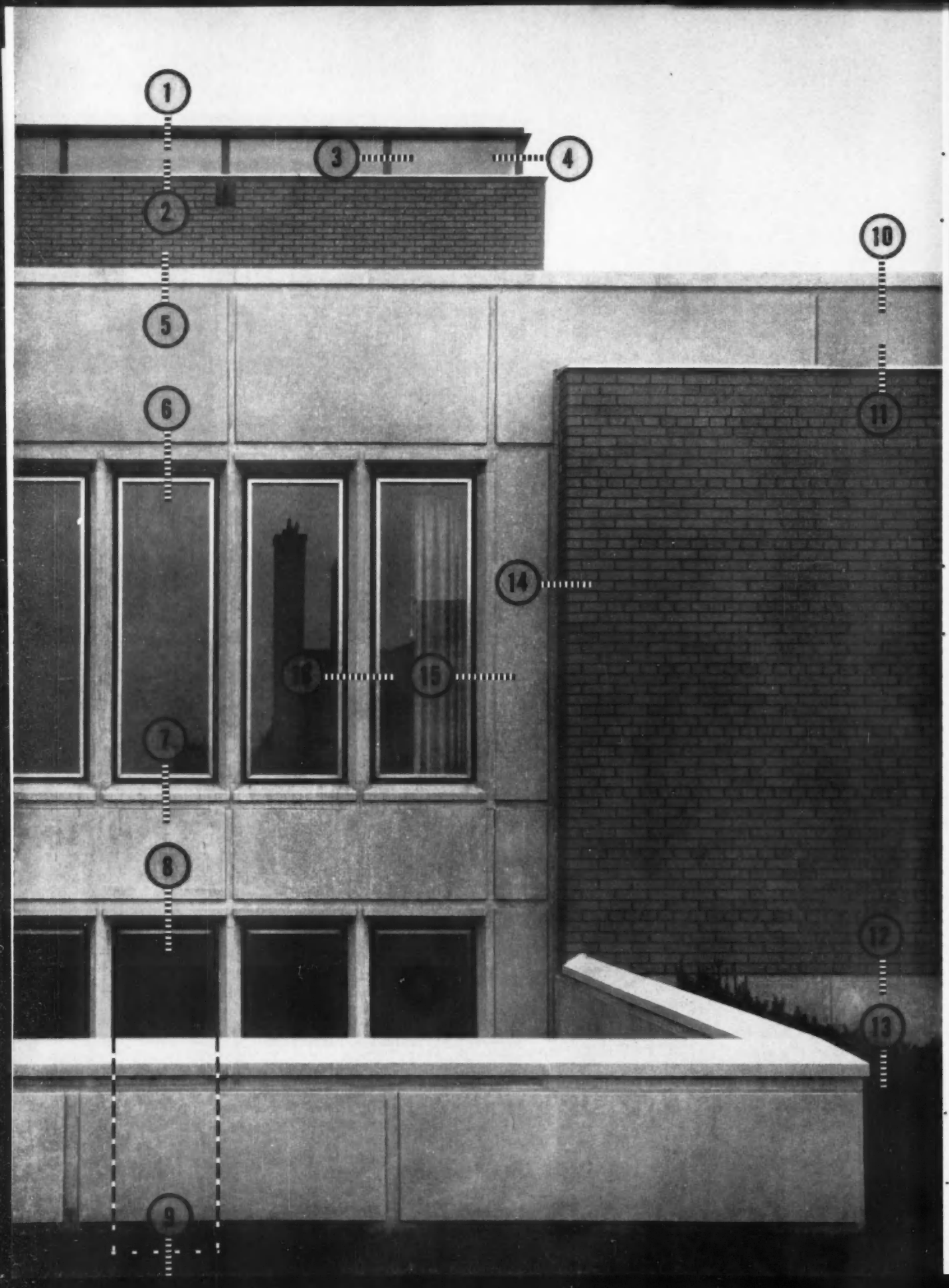
There is a story in those bents, for they allow the ceiling to be hung free of the walls, thus making it possible to terminate the walls in a continuous peripheral clerestory in order that the brick can be texture-lighted by a wash of graduated natural light during the day—or by fluorescent at night. The unusual and efficient structural system consists, at each bay point, of two rigid T-bents of concrete, pin-connected at the floor line and held stable by three tension members—one in the ceiling, and the other two in the outer low walls, which then carry only half of the low roof and their own weight. Thus, the good old parti—a high, central banking room flanked by lower tellers' and officers' spaces—has here been newly interpreted with a high degree of imagination.

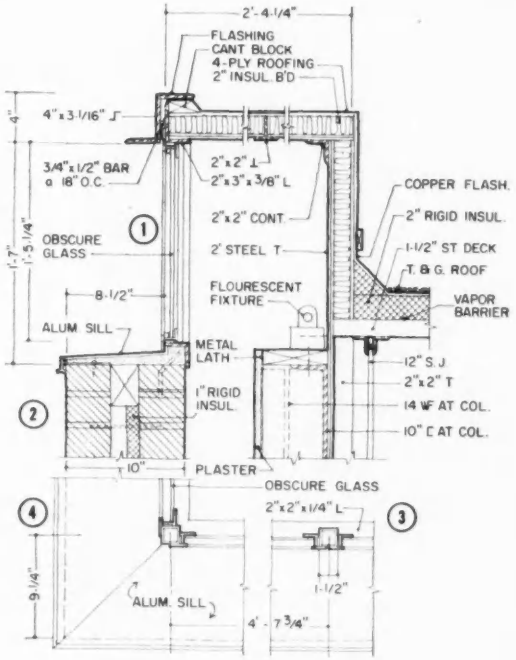


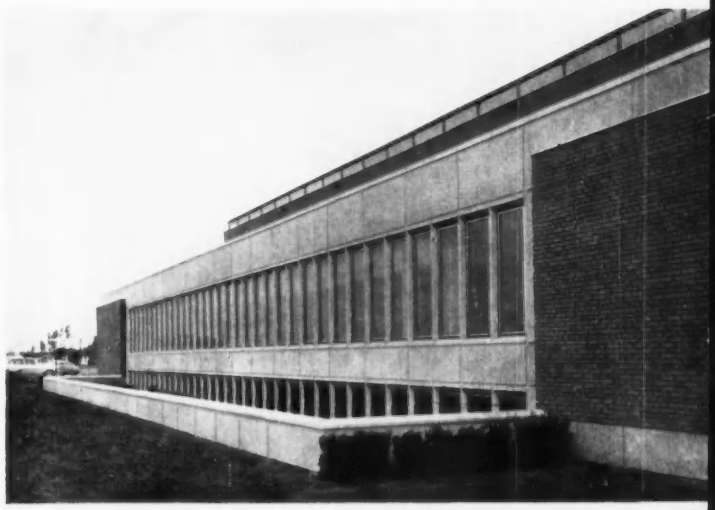
All photos by Bill Hedrich, Hedrich-Blessing





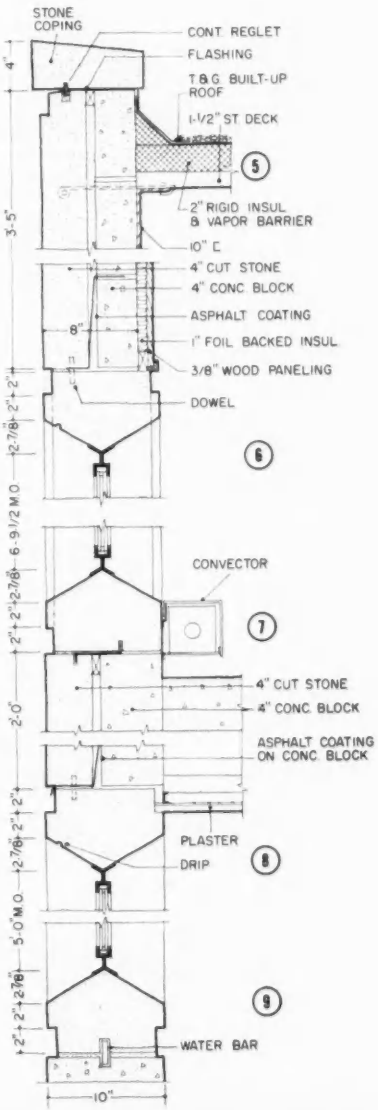

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15

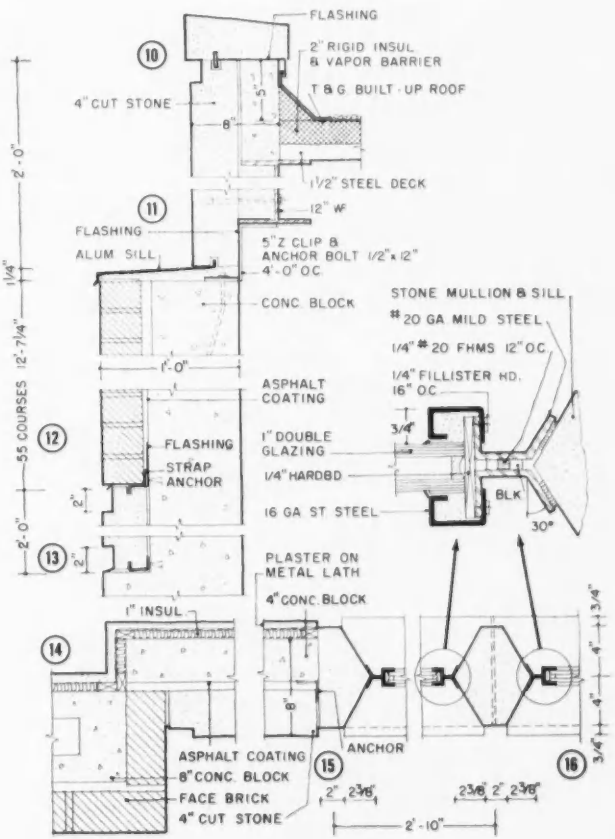




State Bank of Clearing, Chicago

When viewed superficially the building appears fairly conventional, but careful study of its construction and details will reveal an architecture that is both subtle and highly original











State Bank of Clearing, Chicago

The free-standing entrance pavilion serves visually as a marker for the street entrance at the end of the building without disturbing the disposition of interior spaces or the basic integrity of the rectangular plan form. Architecturally, the pavilion is interestingly developed—echoing as it does the peripheral clerestory of the larger, main banking room mass.

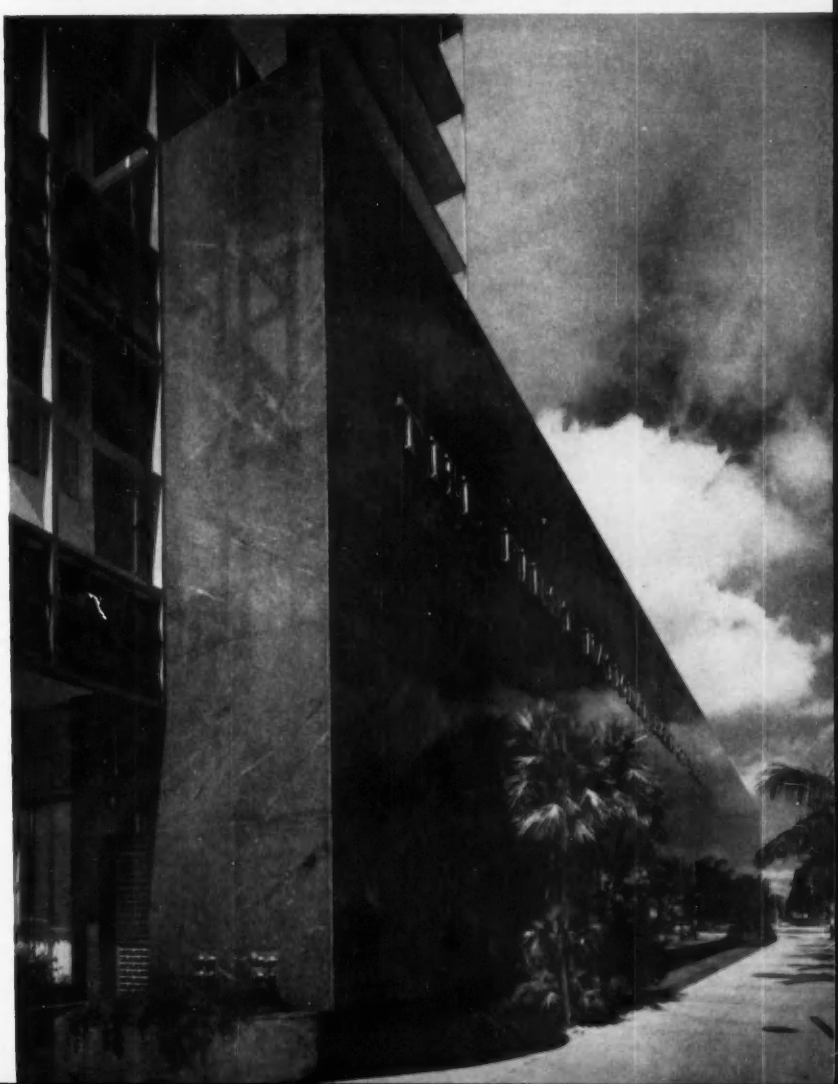
The four drive-up windows can be seen at the right side of the building in the top picture. They are located so it is possible for tellers within a common work area to handle both interior stations and the drive-up windows (refer to plan, page 165). The present windows are spaced 40 ft apart, but provision has been made for future additional windows between, resulting finally in 20 ft spacing. Such an arrangement will involve the use of a series of teller-operated moving belts—in the pavement—to travel the customer's car laterally to the window and return it to traffic

At right:
buff-colored, precast
sunshades create
an interesting pattern

Below:
façade cladding on
Biscayne Boulevard is
highly polished
gray granite



Lynn Pelham



Lisanti, Inc.

DOWNTOWN OFFICE BUILDING AND BANK

The First National Bank of Miami
Miami, Florida

ARCHITECTS:
Weed Johnson Associates

STRUCTURAL & ELECTRICAL ENGINEERS:
Norman J. Dignum and Associates

MECHANICAL ENGINEERS:
R. L. Duffer and Associates

INTERIOR DESIGN:
Knoll Planning Unit

GENERAL CONTRACTORS:
Rooney-Turner





Two photos: Lisanti, Inc.

Miami Bank

This recently completed, 18-story office building and bank—Miami's tallest—occupies an entire block at the edge of a busy shopping district, and faces east over a park to Biscayne Bay. Architecturally, the design consists of two main elements: a broad, three-story bank and parking building, and a 15-story tower of offices. The ground floor area (see plan, right) is occupied by the main banking room, 12 drive-in teller's booths—arranged so one may drive through from street to street—a group of retail shops for rental income, and the entrance to the parking decks. The self-parking type garage occupies four levels above and below grade, and will handle 600 cars. The structural frame of the bank element is reinforced concrete; the office tower has a steel cage frame.

The mechanical equipment for the entire building is located on the fourth floor; a lounge, terraces, and dining rooms for bank officers and executives occupy the 18th floor penthouse.

The bank portion of the building is sheathed in polished gray granite; the remainder of the exterior is clad in buff-colored ceramic tile, which is cast integrally as facing for the precast surfacing panels; the sash and venetian blinds are of anodized aluminum in natural tone.

On the long north and south sides of the office tower, a carefully calculated system of sun screens serves to break down the tropical sun, eliminate sky-glare, and reduce the air conditioning tonnage. These shades are precast, balcony-like overhangs set in anodized aluminum frames. They project 3½ ft on the north façade, 5½ ft on the south, and are set at door-head height. For the three-story bank element, the shades are of blue anodized aluminum.

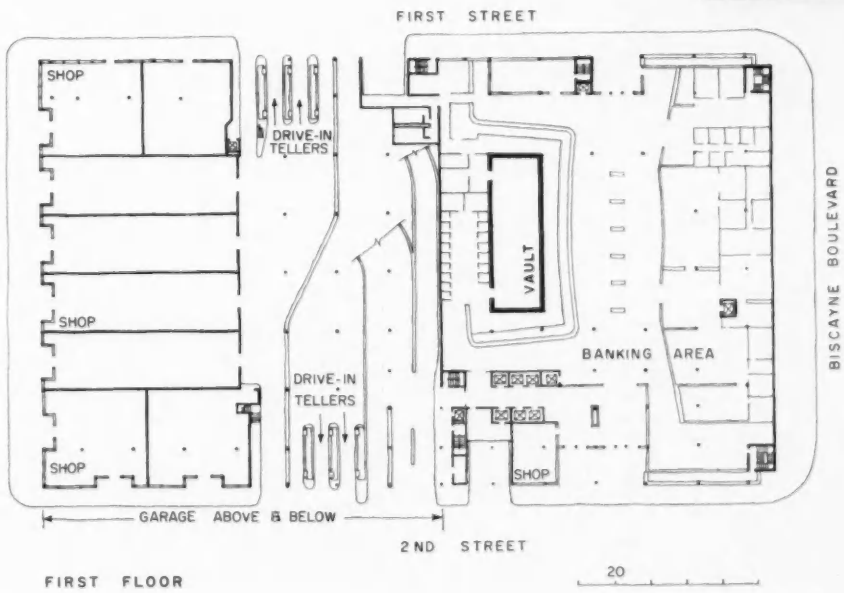






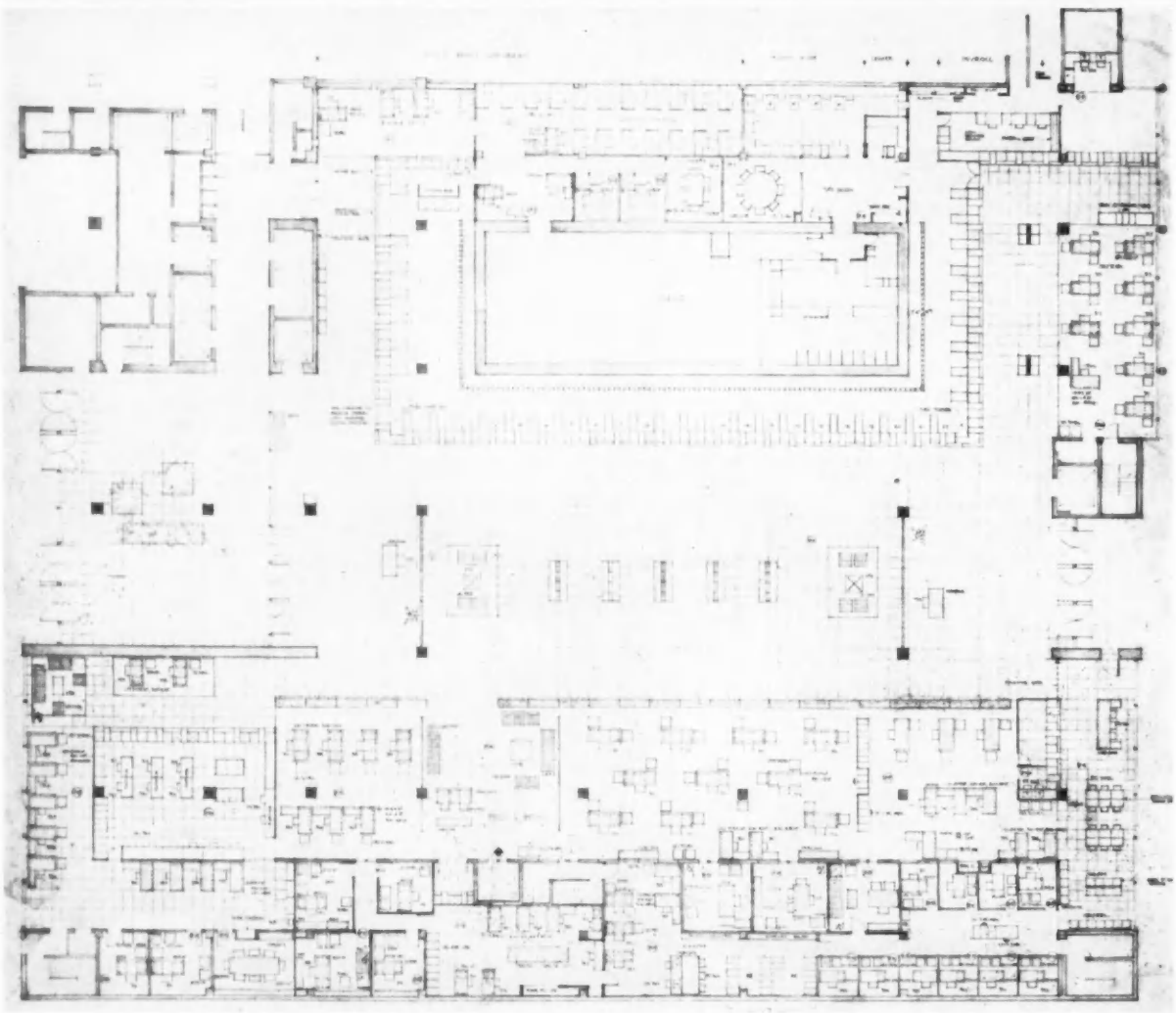
Three photos: Scott Hyde

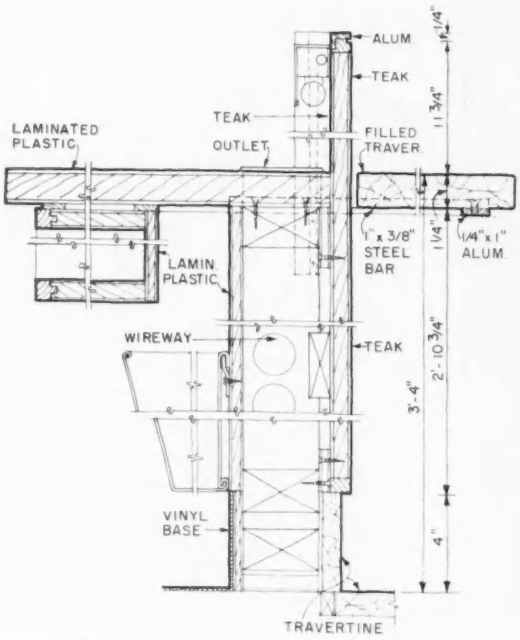
Above, reception area for the bank executive offices: teak paneling, beige carpeting, special desks with built-in telephones. Top right, installment loan offices: yellow and white plastic partitions in steel frames, white vinyl on plaster walls, beige carpeting. Lower right, safe deposit booths: dividers of blue or white plastic, beige carpeting, plastic counter with special design pop-out ash tray



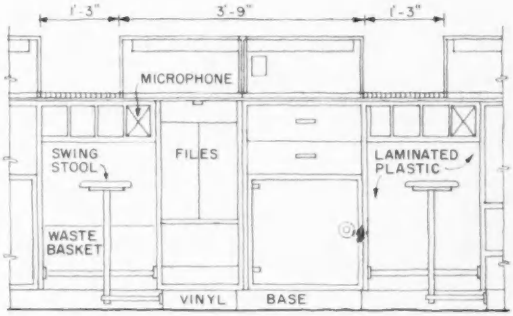
FIRST FLOOR



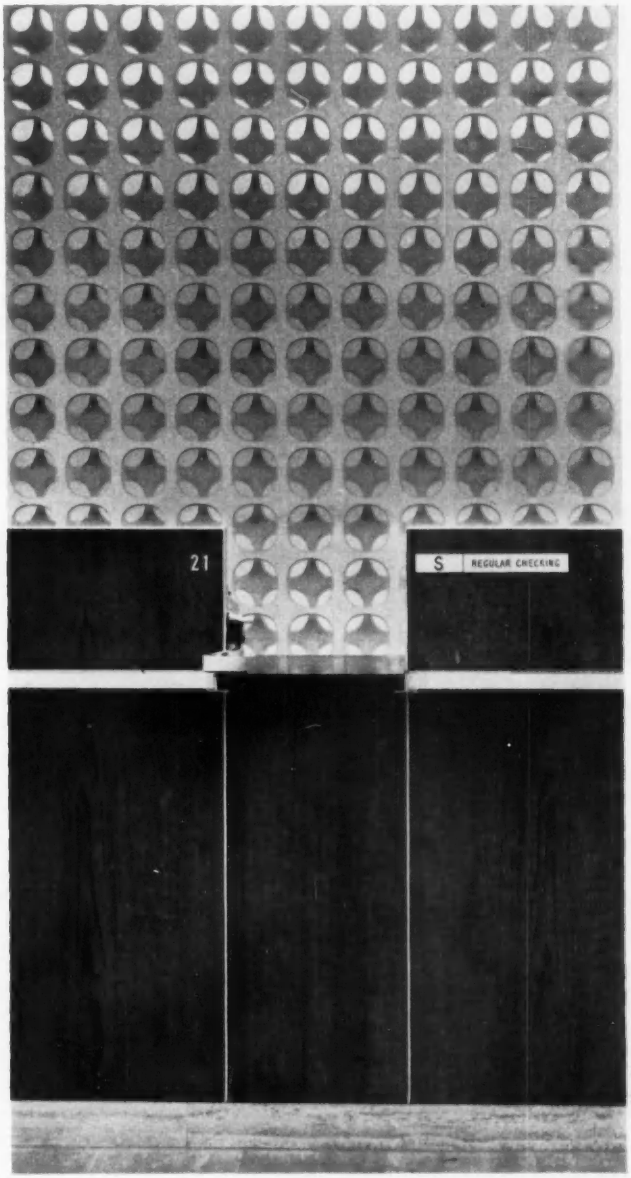




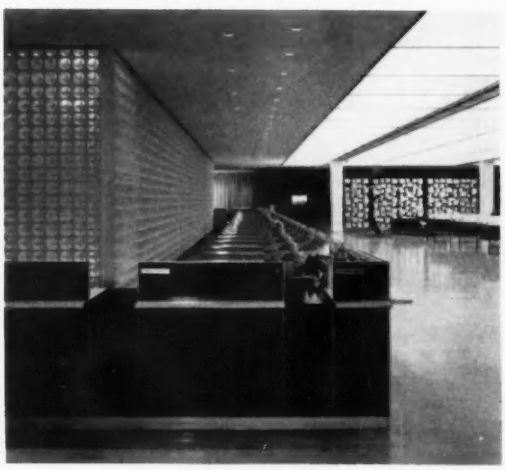
SECTION



TYPICAL ELEVATION



Robert Martin



Lisanti, Inc. (also opposite page)

Miami Bank

The main banking room—located at ground level—has an air of elegance and a degree of dignity appropriate to the banking function. Typical walls are paneled in teak; the Bertoia screen serves as background and diverts public traffic to proper areas.

The luminous ceiling consists of pyramidal plastic sections, alternately hinged for relamping. The metal strips between the columns contain two-way air conditioning diffusers.

The pierced block screen, designed by Erwin Hauer, surrounds yet stands free of the vault, which is painted blue. The contrast thus created makes the vault the visual focus of the room.

The handsome banking counter is of teak and aluminum, and features a microphone system which enables any teller to summon a guard without leaving his station or attracting undue attention



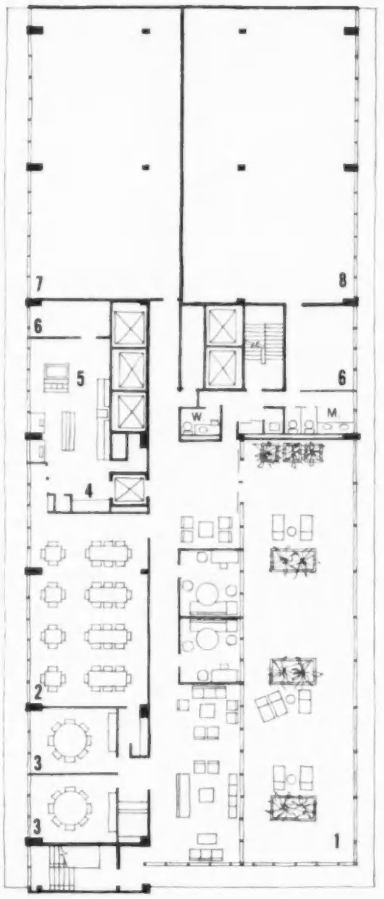
James Forney



Scott Hyde



James Forney

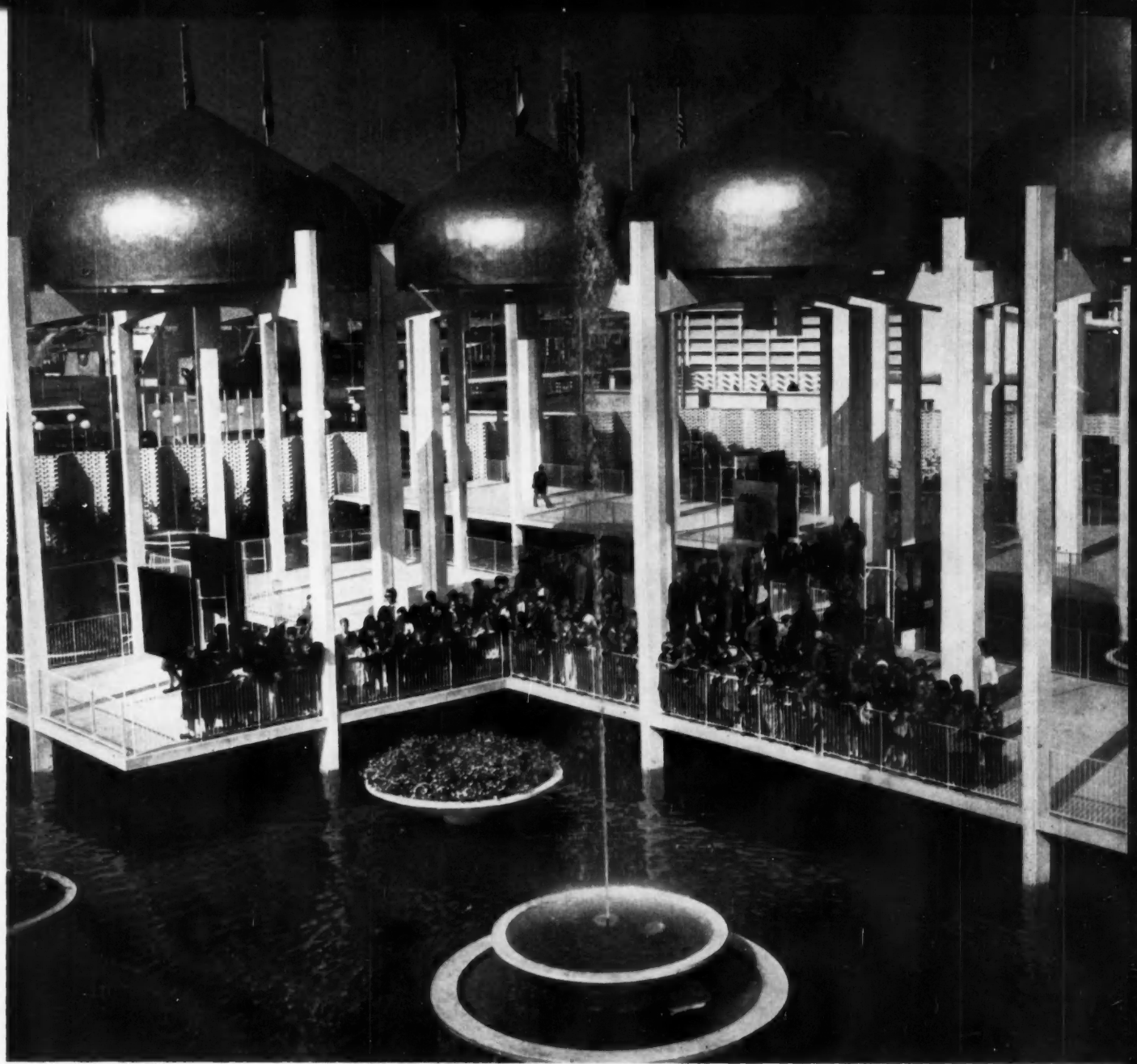


PENTHOUSE 5

1. Roof Terrace
2. Dining Room
3. Private Dining
4. Linen Storage
5. Kitchen
6. Storage
7. Expansion Area
8. Cooling Tower

Miami Bank

The bank officers' penthouse lounge, top: white lacquered wall panels with vertical brass splines, yellow curtains, off-white wool carpeting, furniture of leather, brushed chrome, and marble. The board room, center: gray flannel on plywood wall panels, charcoal gray carpeting, white silk curtains, table of special design consists of five interlocking pieces which can form various combinations. The bank officers' dining room, bottom: wall panels of natural teak or white lacquer, teak and black leather chairs, white linen curtains, and deep blue wool carpeting



GOLDEN ARCHITECTURE STEALS SHOW

U. S. Pavilion, World Agricultural Fair, New Delhi, India; Office of International Trade Fairs, Department of Commerce, Nathaniel Knowles, Director of Project.

Minoru Yamasaki & Associates, Architects and Engineers; William Ku, Design Associate and Resident Architect; Henry Guthard, Electrical Engineer and Resident Engineer; Walter Graydon, Project Chief; Walter Tronianko, Job Captain; Edwin Siegel, Mechanical Engineer.

Ammann & Whitney, Structural Engineers; Mahindra Raj Mendiratta, Resident Structural Engineer; Frank Noftz & Associates, Exhibits; Don Reid—Sam Fatzick, Resident Exhibit Designers; Tirath Ram, General Contractor; Bhagwan Singh & Co., Electrical Contractor.



All photos (except of model) by Minoru Yamasaki

U. S. FAIR IN INDIA

The U. S. Pavilion at the 12-nation Agricultural Fair in New Delhi was more than outstanding—it completely stole the show. The combination of dazzling, fairyland-like architecture and the lively, informative display together provided one of the most successful foreign exhibits the U. S. has ever built.

Architect Minoru Yamasaki explains it all with a verbal guided tour: "The entrance is a curved ramp placed so the visitor can only guess what happens inside. A line on the ramp serves to draw more people. Inside, we find ourselves on a series of white terrazzo platforms floating over a lake filled with fountains and gaily colored flowers. Here we say, 'We are friends; you are welcome.' The large body of water, walled away from the remainder of the fair, gives a sense of space and quiet freedom away from the crowded buildings, streets, and chaos outside.

"Then we enter the first building, a low-ceilinged interior painted black for contrast. Here the story of agricultural progress in America is told; how U. S. farmers became the most productive in the world, through free initiative, organized research, technology, and communications.

"Next, we come out into daylight to visit an American county fair. Gaily colored tents shelter displays of handicrafts, prize-winning jams, jellies, pickles, hooked rugs, etc. Opposite, farm equipment is demonstrated; nearby is a barn where milking and egglaying devices are on display. A children's area nearby features a carousel and airplane ride.

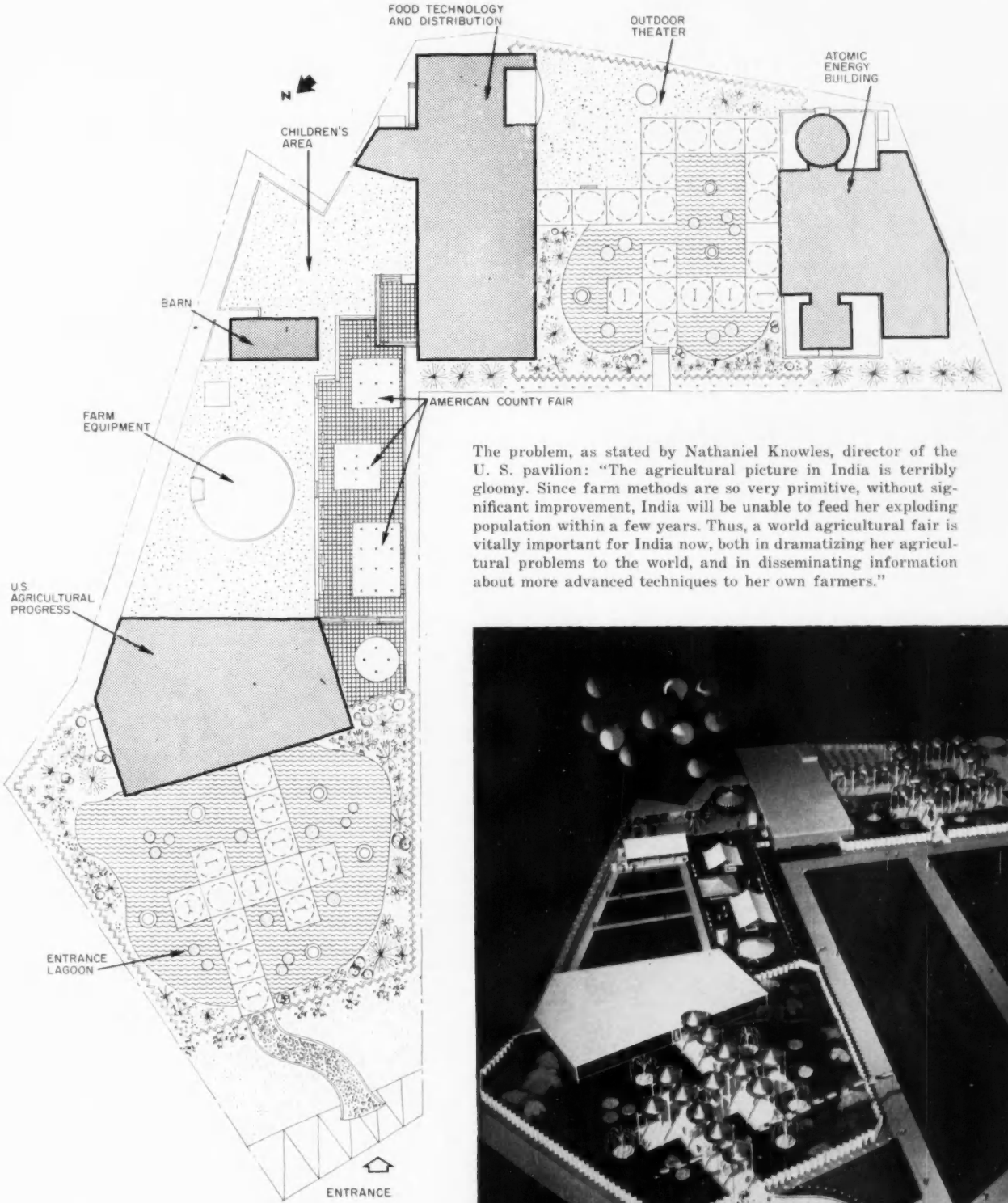
"From this area, the visitor next enters a building where the processing, shipping, and distribution of food in America is described. Then, outdoors again into a second domed and fountained garden containing a stand-up theater for 1000, where square dancing, singing, and motion pictures are presented.

"The atomic energy building—the last—tells the story of farming's future. There is a reactor, and experimental examples of what atomic energy can do for the future farm. Finally, we go out again into the garden, where we bid our visitors farewell."

Yamasaki: "Our concept was that of a walled complex of gardens and buildings, with a continuing series of surprises within —we hoped delightful ones. We wanted to capture an Indian flavor, to show our friendship and respect for India and her ancient culture. The series of stilted domes (40 ft high) would be seen from a distance, and would be intriguing in contrast to the bulky buildings of the other countries. This proved in actuality to be quite true. The outer brick wall is 11 ft in height."

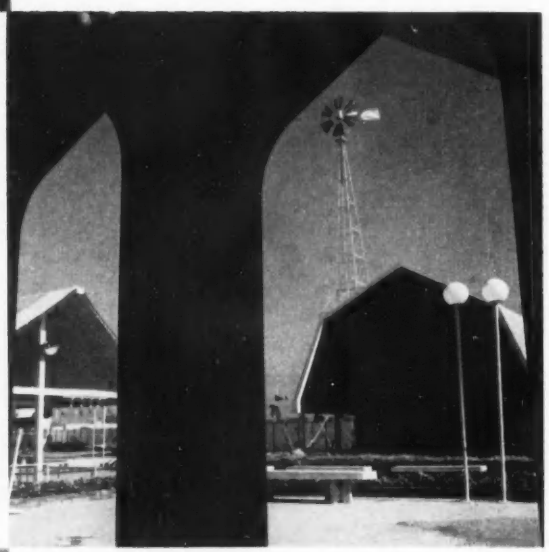






The problem, as stated by Nathaniel Knowles, director of the U. S. pavilion: "The agricultural picture in India is terribly gloomy. Since farm methods are so very primitive, without significant improvement, India will be unable to feed her exploding population within a few years. Thus, a world agricultural fair is vitally important for India now, both in dramatizing her agricultural problems to the world, and in disseminating information about more advanced techniques to her own farmers."



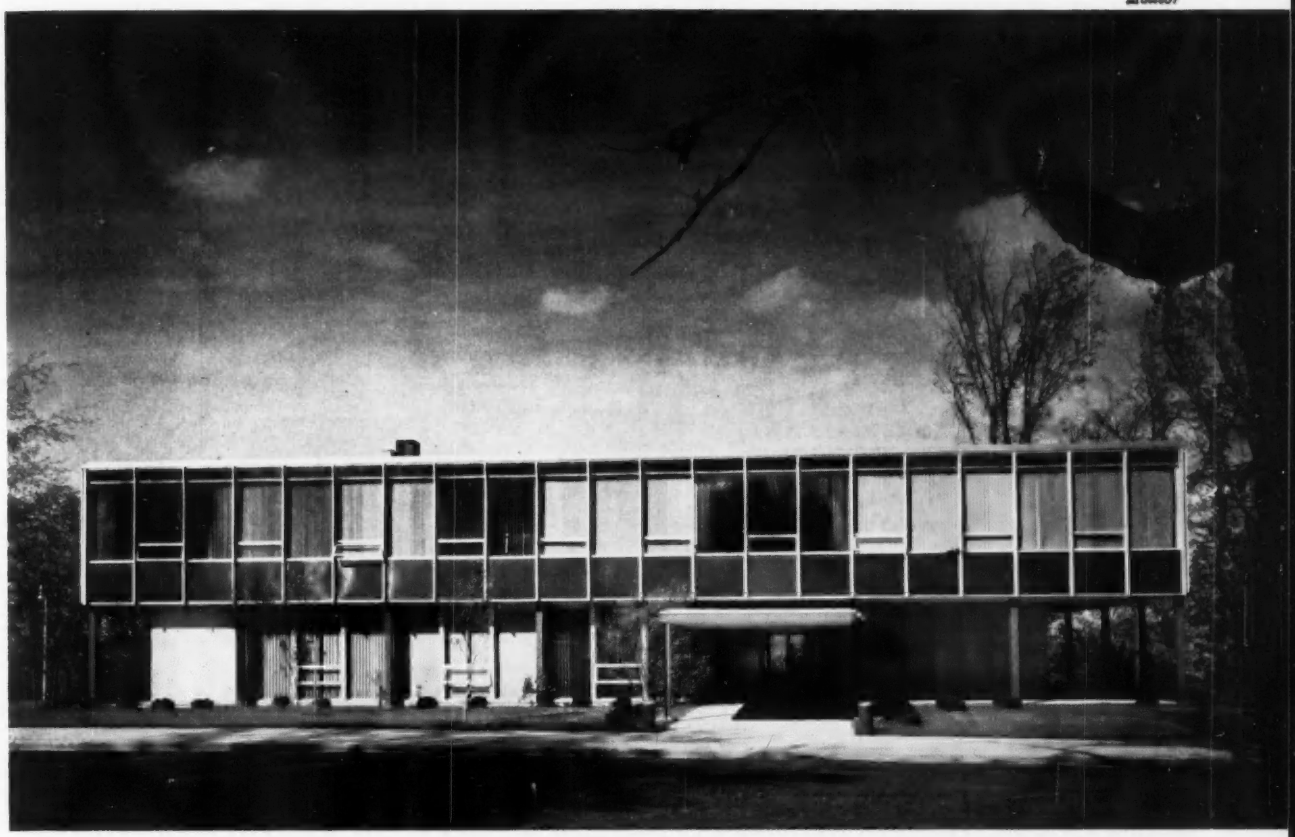


U. S. FAIR IN INDIA

Yamasaki: "We had hoped the domes and columns could be precast, but lack of facilities prevented, and they were poured in place. The buildings had brick bearing walls, plastered; steel joist roof construction. There were brick platforms for the county fair; the demonstration area was covered with powdered brick, hand crushed on the job. The concrete lake bottoms were painted blue; the exterior of the domes gold. All other concrete was rendered pure white. At night, pools, walls and domes were lighted—a grille in the first building was silhouetted. All this reflecting in the water was great fun."



Molitor

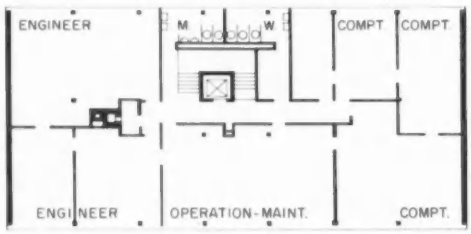


Office Building for St. Lawrence Seaway Development Corp.

LOCATION: *Massena, New York*

ARCHITECTS: *Sargent-Webster-Crenshaw and Folley*

GENERAL CONTRACTOR: *Joseph E. Bennett Co. Inc.*



SECOND FLOOR



FIRST FLOOR

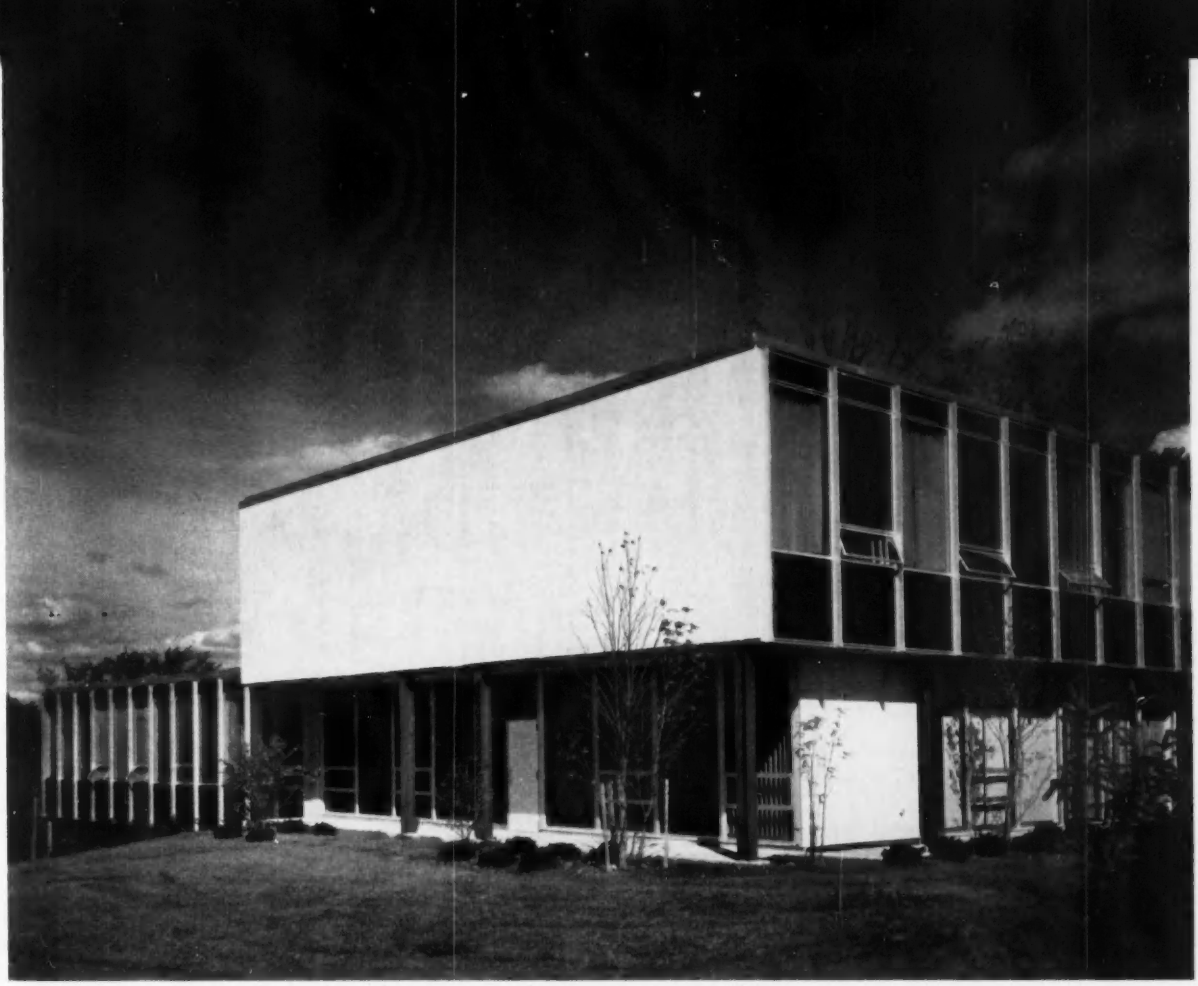
This three-level structure provides work space for men in charge of the construction of the St. Lawrence Seaway. Built on a site which slopes sharply to the rear, the basement extends toward a lower grade level of the slope and obtains natural light for additional office space at the rear. The first floor is occupied by administrative offices with a small exhibition lobby to the right of the entrance. On the second floor are engineer's offices and drafting rooms.

The structure is steel frame with columns exposed at grade level. Interior floors are 2½-in. concrete fill over metal decking. No air intake grilles appear on the curtain wall exterior; they have been located in the soffits.

Continuous exterior surfaces are white marble. Window walls consist of dark blue panels, green-hued, heat resistant glass, and both fixed and projecting aluminum sash.



BASEMENT



Second floor provides overhang. Administration wing is at rear, garages below

Exhibition hall to right of entrance opens onto terrace sheltered by overhang



Moltor

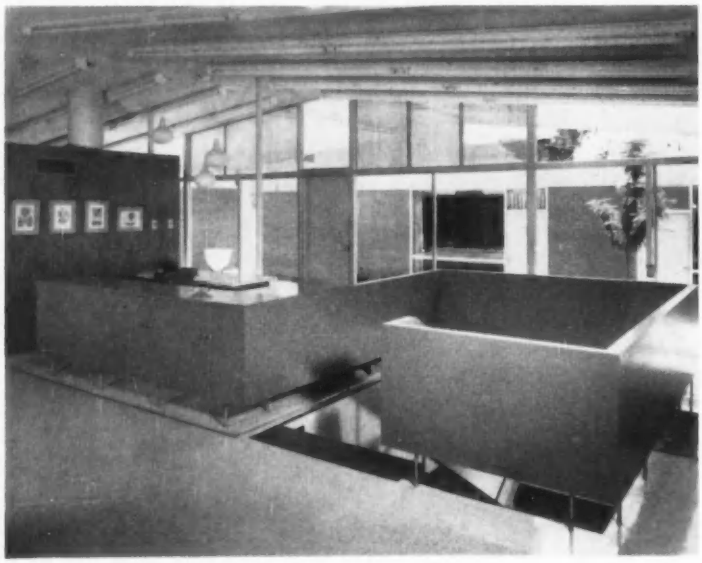
Offices for Aircraft Industry



NAME: *Maytag Aircraft Corp.*
LOCATION: *Colorado Springs, Colorado*
ARCHITECTS: *Lusk and Wallace*
STRUCTURAL ENGINEERS: *Johnson and Voiland*
MECHANICAL ENGINEERS: *Harmon and Beckett*
ELECTRICAL ENGINEER: *Al McKitrick*
GENERAL CONTRACTOR: *Platt Rogers Inc.*

In this building cantilevered roof trusses provide flexible open space and have an air age 'look.' The larger portion houses the main office of the Maytag Aircraft Corporation which is a world-wide refueling service. The four offices in the separate unit to the south have been provided for separate tenants who share mechanical services and storage facilities with Maytag. The main area is planned around a central general office space which opens onto a reception area and a small court. The court admits north light to the offices to the south, and southern sun for the workers at Maytag. Mechanical equipment is housed in the basement of the main unit. The main floor is raised above ground and projects beyond the basement wall creating a band of shadow which serves as a visual base. The offices on the south have no basement, are lower, and have a flat roof. Exteriors are of anodized aluminum and blue glazed brick.

Guy Burgess



Reception area for main unit overlooking entrance court

Executive office. Entrance court beyond



Guy Burgess

HOUSES



Dearborn-Maguire Photos

SMALL BUDGET OFFSET BY LARGE VIEW

OWNERS:
Mr. and Mrs.
Richard N. Wegner

LOCATION:
Tacoma, Wash.

ARCHITECT:
Robert Billsbrough Price, A.I.A.

CONTRACTOR:
Richard N. Wegner







Wegner House

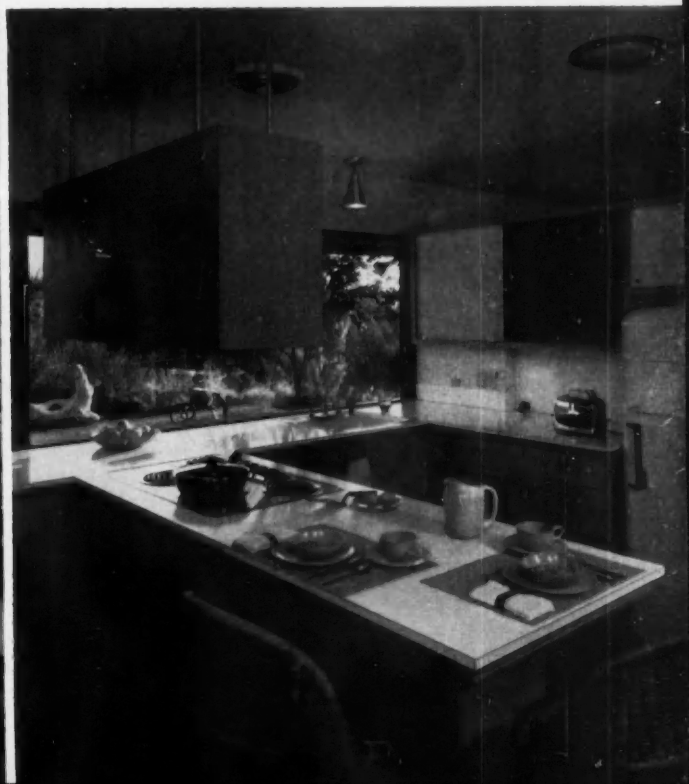
The only real problems posed by the clients were the not unusual ones of a limited budget and a desire for easy maintenance, and the pleasant challenge of a view of Puget Sound and the Olympic Mountains. The living room, the terrace and the bedrooms are all oriented to take advantage of this view, from which the dining room also benefits, as the living room is dropped 2½ ft. The lowered living room also conforms to the sloping site, and adds dignity to this area.

Activities are separated into two clearly defined zones: the sleeping wing, and the living and dining wing, connected to each other by the narrow "neck" of the entry.

The fact that the owner could act as his own contractor helped hold the cost of the house to $18,000.







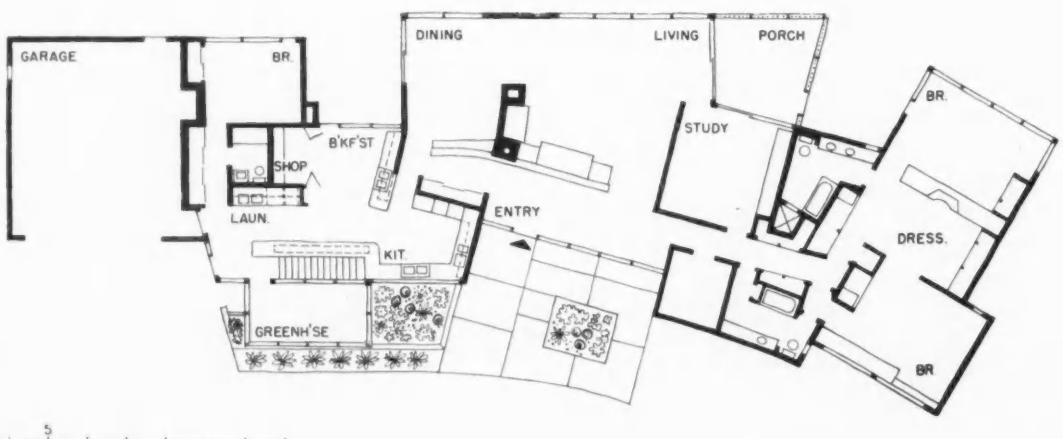


Torkel Korling Photos

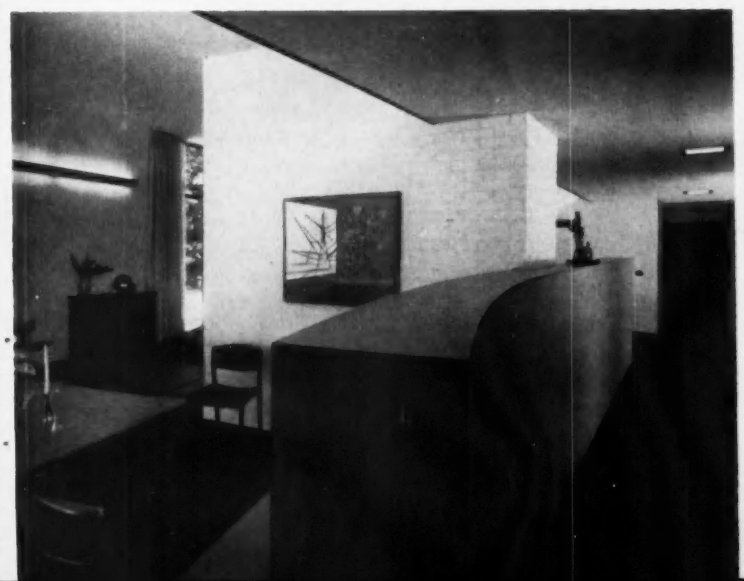
LARGE HOUSE FITS IRREGULAR SITE WITHOUT CRAMMING

LOCATION: *Highland Park, Ill.*
ARCHITECT: *Edward D. Dart*
ENGINEER: *Donald Robinson*
LANDSCAPE ARCHITECT: *Gertrude Kuh*
CONTRACTOR: *Rieke Construction Co.*

The fan-shaped plan of this house is a solution to a problem posed by an irregularly shaped lot backed by a ravine. The house is, in fact, built on the lip of the ravine. Designed for a couple whose children no longer live at home, many of the areas serve double purposes: the second bedroom is either extra space for the master suite, or a guest room; study is extra living room for parties, or, again, a guest room.





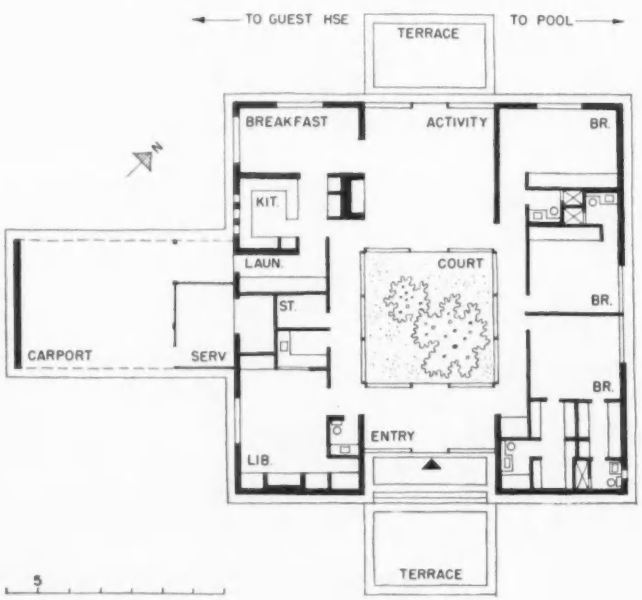






Frank Lotz Miller Photos

VARIATION ON THE COURT HOUSE THEME

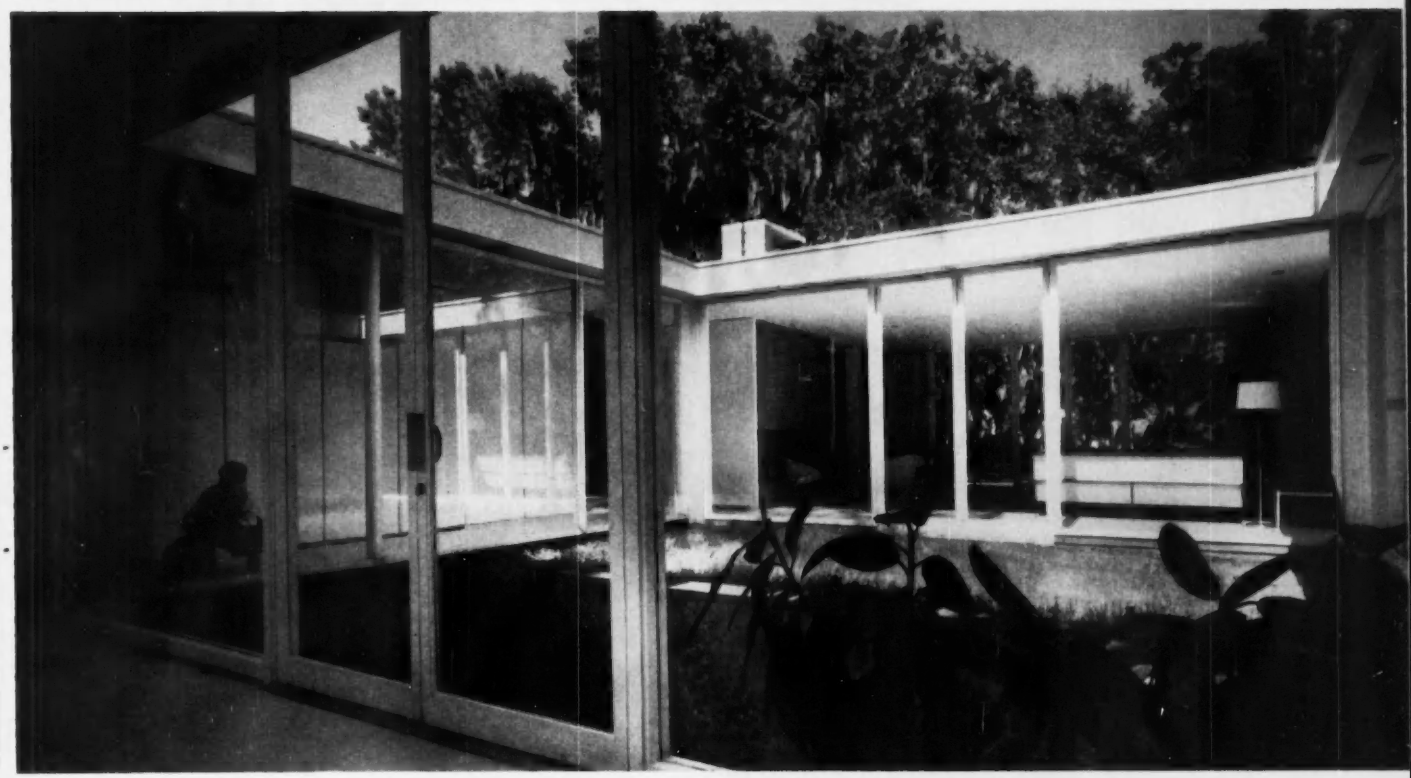


OWNERS: *Mr. and Mrs. M. L. Cook*
LOCATION: *Friendswood, Texas*
ARCHITECTS: *Bolton and Barnstone*
STRUCTURAL ENGINEER: *A. T. Knies*
INTERIOR DESIGN: *Knoll Planning Unit*
CONTRACTOR: *Robert E. Pine*

The continuing interest in the court house is partly a result of its many possibilities of variation. Here, the court is completely surrounded by living space, and is glazed on all four sides. It is fully open only to the two general areas of the entry and the activity room. Where a feeling of shelter is wanted, as in the library and bedrooms, it is available; but anyone moving about the house is always conscious of light and greenery.

The house is the final element in a group of buildings already on the property: the former house, now converted to a guest house, service buildings, garages, and a bath house.











Cook House

This house took a First Honor Award in the Texas Architecture 1959 program, sponsored by the Texas Society of Architects.

High intensity lighting, furnished by 20 floodlights set under the eaves, provides both interior and exterior lighting around the courtyard; and because the light is brighter outside, this device obviates the need for curtains.

The library is intended to serve as a formal area for receiving guests, and is served by the bar and a powder room; the activity room accommodates informal entertainment. Because of the existing guest house, no guest bedroom was required in the main house.

The house is equipped with year-round air conditioning







BUILDING TYPES STUDY 282

®

SCHOOLS

Almost everyone involved in education in any way seems to spend some portion of his time these days in self-examination. The avowed purpose of this is improvement of education. Much of the examination seems to be concerned with the role of architecture and architects in the provision of environment for learning. One of the most important continuing examinations now going on is that sponsored by Ford Foundation's Educational Facilities Laboratories, Inc. Much of this work has been reported on in the pages of the RECORD during the past months. In this issue, E.F.L. adds a further dimension to their work so far, an analysis—complete with predictions—of the path of educational architecture in the future.

Regarding the burden the schools must carry in the next two decades, E.F.L. speaks of the growth expected in the next two decades, ". . . our population will double by the year 2000! In a sense this means that in the next 40 years we must build another—an additional—America." A discussion of this idea is contained in "Sighting the Sixties: Launching a Second U.S.A., The F. W. Dodge Corporation Construction Outlook for 1960 and Beyond," published in ARCHITECTURAL RECORD, November 1959.*

The five schools included in the present study represent present-day methods being used by architects for achieving some of the improvements discussed by E.F.L. Among the buildings shown, there is considerable variation. None solves its problems exactly as they are solved in another. Perhaps none fully realizes the potential E.F.L. is talking about. Yet each, in varying degree, approaches the potential.

*Reprints of the "Sighting the Sixties . ." article and other F. W. Dodge Corp. publications on this subject are available to architects and engineers who request them. These publications include: Construction, Consumer Spending and the General Economic Outlook for 1960 (submitted to Joint Economic Committee, Congress of the United States, Feb. 1, 1960), A Bright Picture, The Outlook for Industrial Construction, (Jan. 27, 1960), Construction Project: Build A Second U.S.A. in 40 Years (1960), The Housing Market: Soaring Through the Sixties (Jan. 25, 1960), Preview of Housing Construction for 1960 (Jan. 1960). All of these are based on statements or speeches of Dr. George Cline Smith, Vice President and Chief Economist, F. W. Dodge Corp.



Molitor

Sarasota Senior High School, Sarasota, Florida
Architect: Paul Rudolph



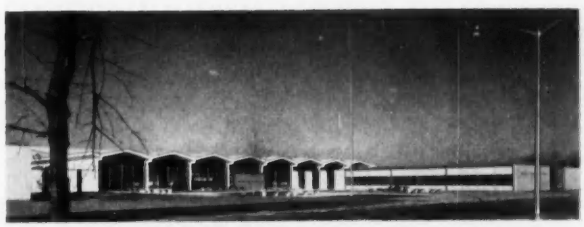
Molitor

Hilltop Elementary School, Wyoming, Ohio
Architects and Engineers:
Charles Burchard, A. M. Kinney Associates



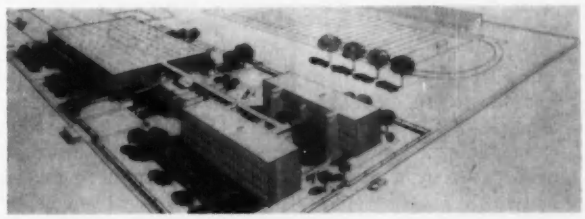
Jay Oisted & Assoc.

Robert E. Lee Senior High School, Tyler, Texas
Associated Architects:
Caudill, Rowlett & Scott and Bruce & Russell



Amiaga

Smithtown Central High School, Smithtown, New York
Architects: Ketchum and Sharp



Lawless Area Junior High School, New Orleans, La.
Architects: Charles R. Colbert
of Colbert-Lowrey-Hess-Boudreaux

SCHOOLS FOR TOMORROW

*Prepared by Educational Facilities Laboratories, Inc.**

Many a school being built today will be operating well into the twenty-first century. If tomorrow's schools must accommodate tomorrow's methods and tomorrow's content of education, it behooves everyone who plans a school today to think about the probable shape of things to come —such as these:

Small Spaces Will Be Multipliable

Central to the design of space for teaching and learning is how the persons involved, adults and children, are to be deployed. If the custom continues of arranging children in uniform class groups of 25 to 35 or more children to be taught by one teacher, unaided and alone, then the schoolhouse will continue typically to be a series of uniform classrooms, of equal-sized boxes, supplemented by such specialized large spaces as the standard gymnasium—whose dimensions are determined customarily by the requirements of basketball; an auditorium, which may stand idle for all but a few hours each week; a cafeteria, offering little other use than noontime feeding; and a library.

If, on the other hand, schools move toward arrangements of pupils and teachers that vary from the solitary teacher in her solitary classroom, the arrangement of spaces will vary accordingly. A number of school systems, chafing under the restriction of the conventional egg-crate arrangements of classrooms, row on row and layer on layer, have moved on to a clustering of four or more classrooms around a central space as a way of bringing better communication among teachers and, to children, a sense of community larger than the classroom but smaller than the school.

Today's clustering of classrooms is a half-step development toward the variety of space required when teachers become members of instructional teams and pupils are regrouped from time to time during the day according to the size of group most appropriate to the task at hand. To use an analogy from medicine, fewer teachers will be general practitioners, and more will be specialists. Thus also will return to teaching a zest for scholarship since each teacher on the team needs to know in depth—and have pride in knowing in depth—a particular field of knowledge.

Many schools are now being designed to provide instructional spaces of varying size—from individual study spaces to the small, round-the-table, seminar space, to lecture-discussion rooms that double, triple, or even quadruple the standard classroom. But the desire now expressed by a number of schools to achieve malleable space that can be shaped at once and at will must await the development of a retractable partition which will give acoustical privacy. It seems likely that such a partition will soon be available, since only its cost remains unsolved.

The quest for immediate flexibility has taken many forms. The Belaire Elementary School in San Angelo, Texas, a circular school of eight classrooms, separates its rooms by retractable partitions. Several schools now on the drawing boards, or under construction, are specifying the retractable partitions—e.g., the Chicago University Laboratory High School, the North Chicago Teachers College of the Chicago Board of Education, the Newton South High School, Newton, Massachusetts, and the Dundee School in Greenwich, Connecticut, which is designed for team teaching. Schools of loft construction, such as the Hillsdale and the Mills High Schools near San Francisco and Clare High School, Clare, Michigan, provide flexibility not at once but within hours. Indeed, most schools being planned today are careful to make sure that some interior spaces are not frozen, even if only to the extent of separating classrooms by non-bearing cinder-block or other cheaply destructible walls, however rare their actual removal.

Large Spaces Will Be Divisible

Immediate divisibility of large spaces through the use of folding doors has, of course, been standard practice for years in gymnasiums. Because relatively low levels of acoustical privacy can be tolerated in a gymnasium, these doors have worked with reasonable success. But for most other spaces, particularly the academic, the folding or otherwise movable partition, though tried many times through the years, has usually proved ineffectual in stopping the intrusion of intelligible sound in areas that require acoustical privacy. When a simple, removable barrier offering acoustical separation becomes available at reasonable cost, the principle of mutable spaces will find ready adoption for academic spaces, thereby increasing the freedom to group children at will and to diminish the spaces that otherwise, but now necessarily, lie idle in many schools.

Hotels have long recognized the need for securing high multiple use of space in ballroom and banquet areas. Large business concerns which conduct meetings of varying sizes are providing divisible space. A number of colleges are experimenting with divisible studio-auditoriums. In Boulder City, Nevada, a high school auditorium is about to be constructed to provide three lecture-discussion spaces at once by drawing partitions across a 600-pupil auditorium. The Superintendent of Schools of Boulder City estimates that this divisible auditorium in a large high school will reduce by five classrooms the total amount of academic space that would otherwise have to be constructed. If his calculations are accurate

*This article was developed from the concluding chapter of the forthcoming book, THE COST OF THE SCHOOLHOUSE, soon to be published by Educational Facilities Laboratories, Inc., 477 Madison Ave., New York, N. Y. Copies may be obtained from E. F. L., upon request, by those interested.

it is clear that though divisibility costs more than non-divisibility, the over-all effect is to diminish the cost, to increase utilization, and to accommodate more sensitively the kind of academic arrangement of teacher and pupil, collegiate in principle, toward which many schools are moving in the press for academic achievement.

Space Will Be Added and Subtracted

Most large school systems can predict with reasonable accuracy the total number of children who will be enrolled in the school system for a few years ahead. But prediction of the ebb and flow of enrollments in individual schools defies all available arithmetic. To illustrate: last year San Diego built a new high school for 1,500 students. Factors visible now but not then will cause the building to overflow next year by a dozen classrooms. Chicago has a 1,200 pupil school with an annual turnover of 100 per cent in enrollment.

One way to provide schools at once for overflowing districts is to dispatch mobile classrooms and related facilities. Los Angeles, for example, has 3,300 transportable classrooms, and moves about 500 around the city each year. In San Diego, approximately 23 per cent of the school population is housed in transportable schools. Houston, Texas, uses a thousand transportable classrooms; Rochester, New York, and Toronto, Canada,—indeed, a host of communities—use mobile classrooms to rush space to overflowing schools and to recapture their equity when the rush is over.

The trend toward transportable schools has been hampered by the common practice of making them substandard, makeshift arrangements unworthy of careful design, good construction, and continued maintenance. In many communities the transportable school has inherited the disrespect of the World War I shed-like "portable" that still blemishes the backyards of schools in our big cities. Yet there will be developed a mobile, probably demountable, school that will be good. It will provide for children and teachers an environment at least as good as the permanent school. And it will offer to educational management the ability to provide space on short notice and later to recover that space for deployment elsewhere as unpredictable needs arise. Some rapidly growing school systems have set a proportion of one-fourth to one-fifth of all space to be mobile.

To avoid unnecessary building as the waves of enrollment pass through a school system, expect the junior high school to become the flexible linkage between elementary school and high school, varying in grades contained according to the flow of enrollments in the whole system—at times housing grades 7-9, at others, 5-8, 6-8, 7-8, and possibly other combinations. Even the name may gradually change to "middle school," and its purpose and the grades contained may be exactly that—the school that is midway between the elementary school and the senior high school.

Some Schools Will Be Convertible and Shared

Communities, like families, mature—and at different rates. Some communities in America have clearly matured. No more land is available for new homes. Old homes are giving way to encroaching business, industry, and commerce. Coming down the street toward the school are the neon signs, the automobile sales lot, the beer joints, the light manufacturing, the decaying residences. Left by the side of the road is the schoolhouse, half empty, ill-maintained, and obsolete, adding its gloom to the general depression, unable by its unchangeability to accommodate itself to the engulfing tide. There it sits, no longer good for children, no longer good for anything. And eventually it is abandoned, sold for the value of the land less the cost of demolishing the building. Almost every city, even the satellite suburbs, have schools like this. Not just the big old cities need worry about this; the big new suburbs should think about this matter.

The life and death of areas in a city are fast reaching predictability. The school board, superintendent, and architect who plan each school for an unchanging society saddle us with a continuation of the errors of our forefathers. Consider with every school whether it should be designed for the ages or just for a time until it must be something else—a showroom for the automotive trade, a place of manufacture, an office building, a settlement house? Will a school always be needed here? If not, plan now, for later is too late. Design it to be good as a school in its early years, but convertible with grace to other use, to business, to commerce, to housing, or to whatever can now be predicted to be its ultimate disposition.

As a case in point—New York City is contemplating a new commercial high school, some floors of which may be occupied by private enterprise—some compatible, rent-paying business concern whose customary occupation can provide real, rather than contrived, on-the-job training. Consideration is being given, too, to the design of a building that will divide itself between schooling and housing: the first three floors, for example, could be for children at school; the remaining floors could be apartments. Such a school could grow or shrink according to the fluctuation of enrollment, moving into or withdrawing from space designed to accommodate either classes or families according to need—perhaps with a playground on the roof.

This concept of joint occupancy raises new questions and new possibilities. If urban renewal is the aim, does it make sense to send the children from the new development to the surrounding slums for their education? Need we always have a separate school for children in early childhood, ages 4 to 10, when a massive housing development is created? May not the small children, who must be protected from traffic hazards, go to school at home in the housing project itself?

Children Will Learn From Teachers and Machines

The advent of mechanisms for assisting the teacher will likewise reshape the schoolhouse. Consider that a half million pupils were receiving regular instruction by television as long ago as 1958. With airborne methods of telecasting, the number may approach five million in 1960, and with the development of more economical and simpler video-tape recorders, ultimately the numbers taught may approach the 43 million now enrolled in American schools.

Consider, too, that in our national intention to become a bilingual people, language laboratories are becoming the prevailing supplement to the voice of the teacher. The audio-tape recorders, cartridge-loaded to avoid the problems of rewinding; the overhead projectors; the teaching machines for which specific bodies of subject matter will be programmed in order that the student may confront and learn a body of knowledge at his own rate

or in his own time; about to become generally available is a real "talking book" from which one child or many may learn through both eye and ear; video-sonics, simultaneous sight and hearing used so successfully in industry; all these and more will become the new tools for learning. They will strengthen the teacher, not replace him. They will free teacher and learner from the lockstep of standard groupism; the machines will speed communication between student and teachers, freeing each child to pursue knowledge proportionate to his talents and his drive. Ultimately the school will become as automated as the American home where the housewife has been freed from so many boring and laborious tasks.

In large schools and school systems we can expect an increase in the use of electronic data processing to provide better information on which to base administrative decisions, to reduce the clerical work now performed by teachers, and to improve the efficiency of class scheduling in order to achieve more effective utilization of physical facilities. As mechanisms come generally to be the necessary and ever-present aids to teaching and administration, expenditures for equipment will grow larger in proportion to the cost of the building shell. We can expect, too, an increase in the number of schools linked by closed-circuit television as a means of sharing faculty and resources. The small rural schools will be linked by television into regional networks, thus diminishing their cultural isolation and enabling them economically to offer courses ordinarily provided only by the larger urbane or consolidated schools.

One-fifth of all public elementary and secondary schools in America are still one-teacher schools. However desirable physical consolidation may be, the fact remains that thousands of schools will remain small and isolated. Television, films and video tapes offer intellectual and academic consolidation to these small but numerous islands in our culture.

Environment Will Be De-juvenilized

The typical classroom today is a glass and masonry box filled with kitchenlike furniture. Its surfaces are hard and cold. Its furnishings and appointments are totally utilitarian. Nothing yields to the body, is soft to the hand or warm to the eye. Connected by cavernous corridors of echoing tile and steel lockers, most modern classrooms are sterile and unyielding and institutional.

Several recent schools are striving to soften and humanize the environment of such quarters of the building as commons rooms, study quarters, and students centers. Gradually furniture that is comfortable is being introduced. Some schools are searching for an economical acoustical and insulating floor covering, which would be more agreeable than today's hard and noisy surfaces that institutionalize the environment, make teaching harder, and are thought (erroneously) to delight the janitor. As more and more responsibility is placed on the child for his own learning, more dignity will be accorded him. The larger school especially will seek some measure of amenity to diminish the effect of its overpowering mass and the sense of anonymity induced by its hugeness.

Not only will the environment encourage the student to hasten his maturity but the management of students will move toward a more adult relationship with the student. In the secondary school the bells will cease to ring, the more mature and responsible students will be "descheduled" from the close control and maximum security regulations in force for the immature and irresponsible, and students will confront the prescribed bodies of knowledge, whether of school or college grade, when they are ready to profit from such study and not just when the subjects are offered in the course of study. To de-juvenilize the high school and hasten the maturity of students requires the closest of cooperation between educator and architect. Look, too, for more large schools to be divided into schools-within-the-school, of "houses" in which the pupil feels at home because he senses that someone in authority knows him.

New Forms and Surfaces

The American schoolhouse, its shape and materials, has seldom varied from whatever was prevailing in its region at the time it was built. Experimentation and the emergence of new forms have not been characteristic of schoolhouse construction. Though there is no national system of education in America, our schools are as alike as though uniformity were compulsory and diversity were illegal. Yet there has been some reaching out here and there for new forms. A case in point is the dome (geodesic and otherwise) now coming into use as a structure for large places of assembly and for gymnasiums. Though the geometry of the geodesic dome was worked out by R. Buckminster Fuller in 1917 and over 500 have been built, only now is the structure being considered for public education. Wayland, Massachusetts, has a high school field house in a wooden dome, and Utica, Michigan, has also used such a dome for an auditorium. Pryor, Oklahoma, has an aluminum geodesic dome housing an auditorium.

New materials are coming into use in building and will be in the schools before long. Plastics are finding their way into building in ever increasing amounts. M.I.T. is developing a school of steel and plastic. As the cost of conventional building materials mounts yearly while plastic prices come down, we can look for more plastics tomorrow. You will find plastics on the inside and outside surfaces, as insulation, pipes, and, often in combination with other materials, as structure. The invention of the cheap, uniform, high quality nail once revolutionized American building practice. The development of new adhesives may do it again. We may soon be fastening our buildings together cheaply, quickly, and strongly with adhesives.

Look for new uses of old familiar materials. More and more wood will be laminated in various ways to serve as structural members, arches, and domes as well as surfaces. Concrete will be sprayed in new curvilinear forms as well as cast. New materials and new uses of old materials will call for new forms. The box will not continue to be the almost universal building form. Arches, domes, hyperboloids, paraboloids are all here now and we will see more of them. Some of our buildings will look lighter and less permanent than they ordinarily look now, and they will be less permanent. They won't look like today's conventional buildings which don't look like yesterday's conventional buildings.

A More Precisely Controlled Environment

There are at least two architectural approaches to environment. One is to live with nature and use all the light, breeze, and beneficial climate available while blocking out

the brutal glare, the cold wind, and the hot summer sun. In short, accept and use nature. The other approach is to block out nature insofar as we can. We can fabricate our environment with artificial light, air conditioning, and controlled sound. The precision with which environment can be controlled is increasing. There is no doubt as to ultimate direction: environment will be more and more controlled. In the school as in our other buildings we turn from nature to industry.

We know something about color, humidity, odor, heat, light, space, and air movement, but little of their combined impact on the processes contained within the school. When economy is equated to productivity, when the question of how much we are spending for a school is answered in terms of what we are getting out of it, the case for providing an environment that is controlled and automatic will be clear. Temperature, ventilation, humidity, light, color, texture, noise—all these will be regarded as factors in determining efficiency of output—i.e. learning—and not, as now, just factors of input—i.e. cost.

Groups of Schools Will Build Together

Today a school is specified by a school board, planned by an architect, and built by a contractor. These three partners may never have worked together before and may never work together again. Typically, building a school is a one-shot enterprise pursued without regard to similar enterprises that may be going on in the same or in adjoining municipalities.

In England, the situation is different. In order to reduce the duplication of effort, to share resources, and to secure the benefits of group rather than individual action, the Ministry of Education encourages the formation of consortiums, the voluntary clustering together of school districts faced simultaneously with the planning and building of similar schools. Among the benefits accruing from the consortium is the attraction of major contractors who can deploy manpower and equipment with maximum efficiency—and consequent savings—among several projects. In America, in contrast, most schools are built by small contractors, many of them a job at a time. A single custom-built schoolhouse, we are told by several large general contractors, is a headache which they choose to avoid.

Recognizing this general problem, and eager to save time and money, several states have reacted by plumping for the opposite extreme—stock plans. This method involves the acquisition by the state of a number of "model" school plans which school boards may then order free of charge from the state according to which model seems to fit the local need best. Among the benefits claimed for this method are reduced architects' fees, reduction in time of planning and designing, and the establishment of state-endorsed standards of acceptability.

As with most issues, the truth will be found somewhere in the middle, in this case somewhere between the present practice of building in solitary isolation and the opposite extreme of offering mail order schools. And there is a middle ground: not stock plans but stock components; not whole schools but the parts and pieces that go together to make a school.

The movement toward this middle ground, wherein lies greater economy of effort and money, will be hastened as modular measure comes into more general use. Modular measure makes possible the dimensional coordination of materials so that they may be mass-produced and incorporated in a structure without modification. The reduction of building construction costs through modular measure has been a matter of study in the United States since 1921. In 1934, the movement toward modular measure, or modular coordination, as it was then called, was promoted by the National Bureau of Standards of the United States Department of Commerce. Brick makers and metal window manufacturers were among the first to cooperate. In 1945, the American Standards Association approved the 4-inch module as an American standard suitable for dimensional coordination. In 1953 in Europe, 10 countries, at the suggestion of the United Kingdom, joined in efforts to establish a European module. Currently the American Institute of Architects, the Associated General Contractors of America, the National Association of Home Builders, and the Producers' Council are jointly sponsoring the Modular Building Standards Association to promote modular measure in the United States. Modular measure has not yet taken hold in school construction—only about one school building in ten is modular—despite the savings that could accrue from reduction in (1) range of product size, (2) cutting and fitting on the job, (3) cost of designing and detailing, and (4) cost of estimating.

Summing Up

In the long run, economy in school building will be better served by encouraging experimentation and diversity of design. Particularly in these times do we need to encourage the new and unfreeze the old because education itself is in flux. Great changes are taking place in what and how to teach. Even the word "classroom," is having to extend its definition to mean a general ratio of space to pupils, alterable according to the task at hand. Someday we shall come to speak of spaces for learning, not classrooms for teaching. As educators improve their descriptions of what should be going on in the school, as architects are encouraged to design imaginatively around such descriptions, and as groups of school boards build together rather than alone, more economical and better functioning schools will come about.

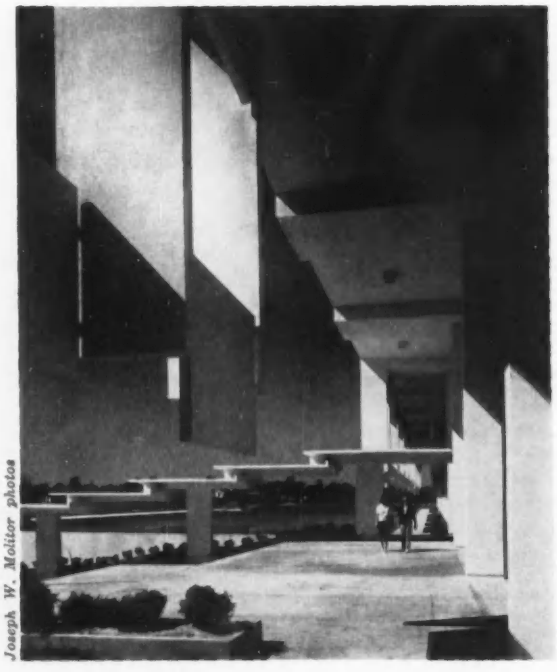
The demographers tell us that our population will double by the year 2000! In a sense this means that in the next 40 years we must build another—an additional —America.*

Schoolhouses—the most numerous of public structures, the ones that more people care about than any others, and have more to say about than any other—must carry their share of the burden of change.

Education is for perpetuating and, hopefully, improving our culture by transmitting it to the young. The schoolhouse is not, of course, as important as the school teacher. But the schoolhouse, because it stands there to be seen, speaks of the intentions of the community toward the children. Any school you build either helps to anchor the people to the community or, instead, hastens their departure. The schoolhouse more than any other structure in town declares the public intention to press on, to rest awhile, or to go back. Winston Churchill said it best: "We shape our buildings; thereafter they shape us."

*This idea was first expressed in a speech given to the New York Society of Security Analysts on June 30, 1959 by George Cline Smith, Vice President and Economist, F. W. Dodge Corp.

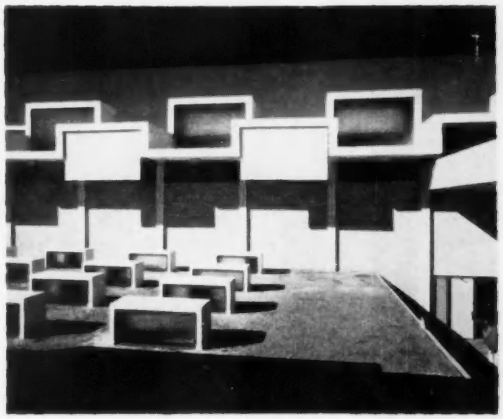
SCHOOL DESIGNED TO CONTROL FLORIDA CLIMATE



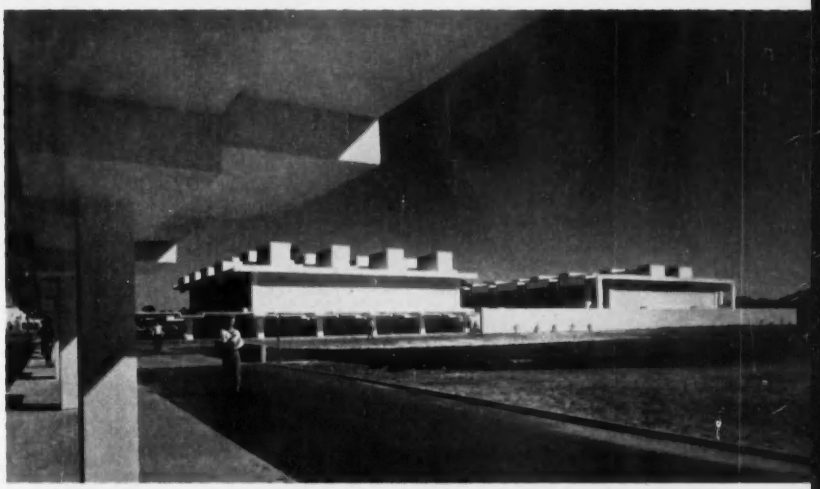
Joseph W. Molitor photos

This is the latest school in the excellent building program which has been under way in Sarasota for the past five years.* The school is significant for a number of reasons. One of the basic principles of its design was the control of the extreme characteristics of Florida climate, while taking advantage of the good attributes. In order to accomplish this, the school was placed on the highest area of the site; it is oriented north-south for maximum effect of prevailing breezes and for control of sunlight. Direct sun is prevented from entering the building during the hot season. Cooling breezes are brought in by skillful design of openings and clerestories for ventilation. Air handling units draw air into the rooms when natural breezes are still. The structure is thoroughly organized and integrated into the overall design. Mechanical and electrical systems and equipment are combined with other design elements in an orderly and functional manner.

*Other schools in the program were shown in ARCHITECTURAL RECORD in Feb. 1959. This example was published as a project in the March 1959 issue.











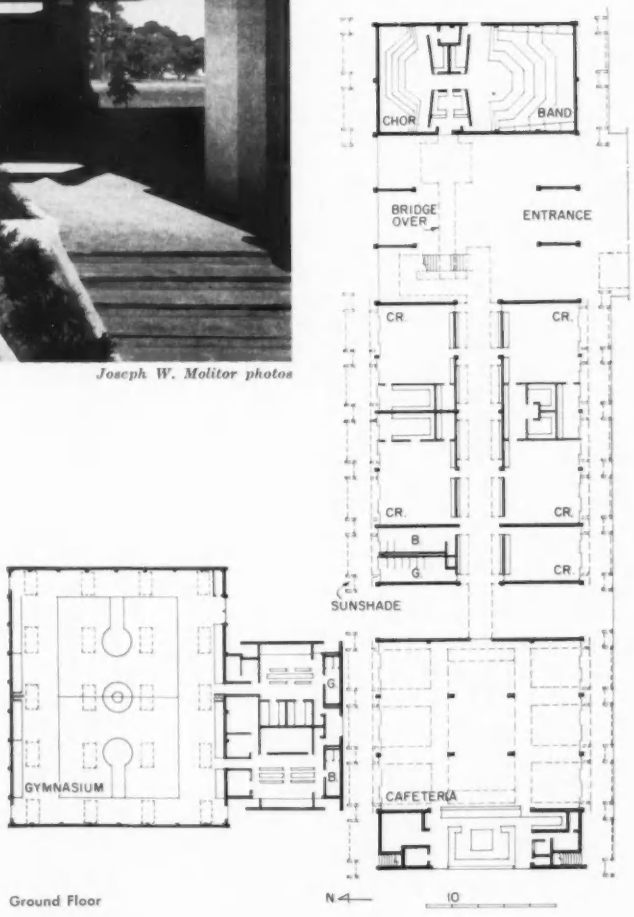
The view above shows the monitors on the roof of the building. These furnish light and ventilation to the interiors of classrooms and other areas of the school. The main entrance (opposite page and above, right) is covered but open. The entrance is connected with the covered bus unloading area by a portico which follows the slope of the stairs down the grade (opposite page and right, above). In the view on the right, second from the top, the gymnasium is shown in the left background, the classroom building on the right. The view is taken from the covered walkway leading to the old high school. The old school will eventually be razed when further development of the new scheme has been completed. The next view shows the opposite end of the two new buildings. On the left may be seen the handling of the white precast reinforced concrete sun shades. These are fixed to exclude summer sun entirely. The remaining view (right, bottom) shows the covered walkway at the rear of the locker room area. This walk connects the classroom building with the gym. The structure of the buildings is reinforced concrete frame. All concrete is left exposed, except for certain ceilings which have been sprayed with gypsum acoustical plaster. The buildings are enclosed with walls of concrete brick

Sarasota Senior High School, Sarasota, Florida; Paul Rudolph, Architect; Sidney L. Barker, Structural Engineer; Charles T. Healy, Mechanical Engineer; Smally, Welford and Nalvin, Civil Engineers; Coe Construction Company, Contractors



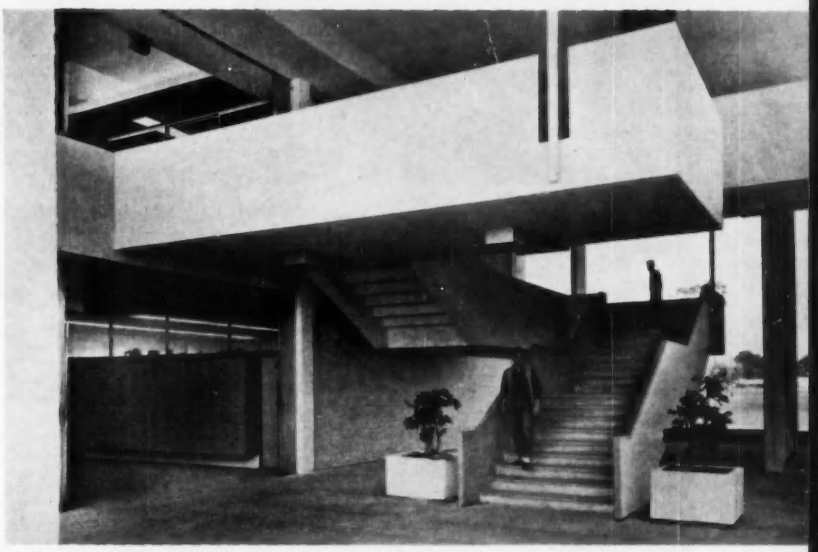
Joseph W. Molitor photos

Sarasota Senior High School

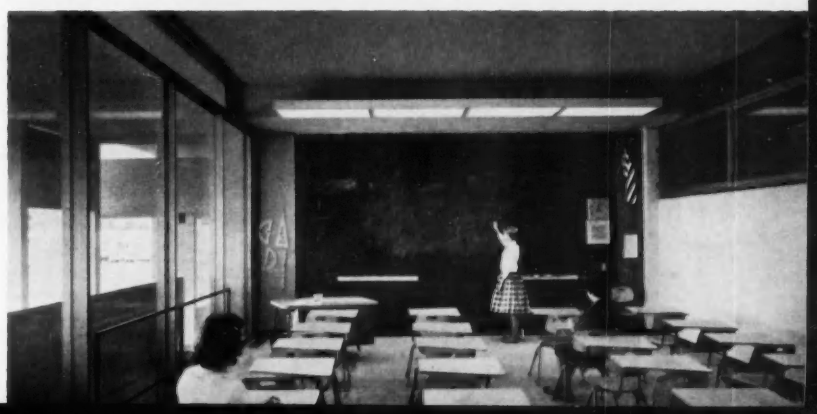


Ground Floor

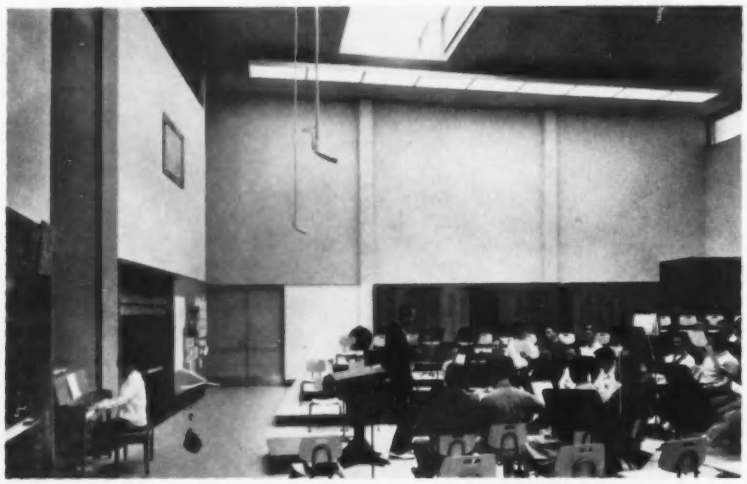








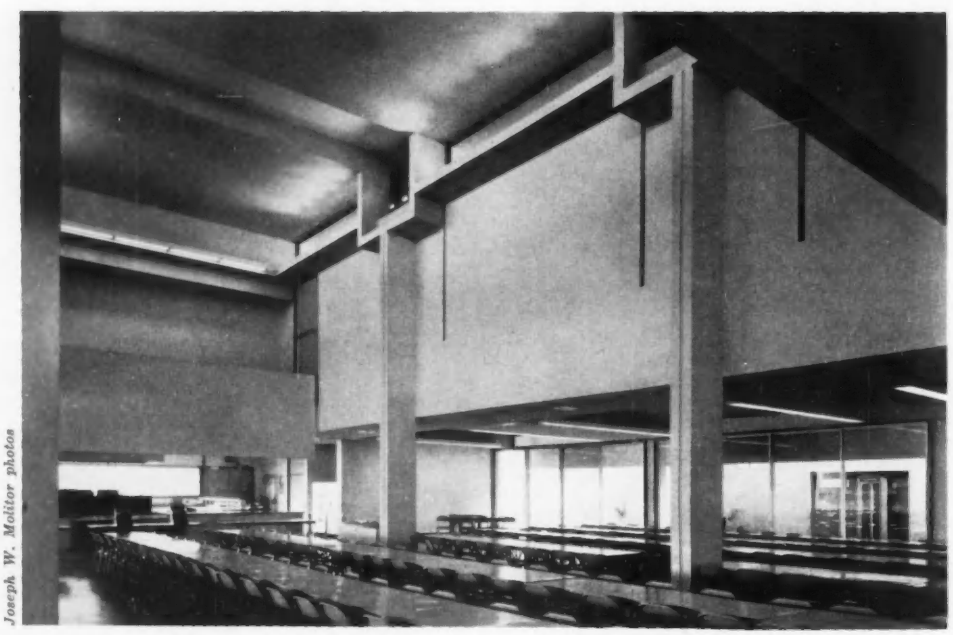
Right, top: view of a typical ground floor classroom. Windows are large aluminum sliding units. At the rear of the room may be seen the entrance to the connecting storage area. Ducts on the ceiling are part of the ventilation system. Each duct contains an air handling unit and diaphragm for exhausting air from the room. The main stair (next view) is located in the entrance area lobby. At the head of the stair is a balcony overhanging the lobby area below. On the ground floor, to the left, may be seen a typical group of student lockers. Similar ones are located in the halls just outside each classroom. The second floor hall (third view from top) has a series of openings in the floor. Lockers are placed in front of these. The openings allow light and air to reach the first floor. Monitors over the hall permit air and light to enter the areas below. The high courses of windows on the hall side of each classroom allow entry of light into the rooms. Right, bottom: a typical second floor classroom, showing the sliding glass windows in the exterior wall and the clerestory course on the hall side. On the outside of the building may be seen the concrete sun shields and the framing which suspends them from the roof structure





Sarasota
Senior High School

Left, top: the choral and band room is two stories high. Located at the extreme end of the classroom building, this area is acoustically treated. Left, middle: view of the gymnasium, located in a separate building and connected with the classroom facilities by a covered walk and the adjoining locker rooms. Below: view of the cafeteria with the serving line and kitchen in the background. At the opposite end, the entrance to the main hall is located. Through the sliding glass doors may be seen the entrance to the gymnasium and the student locker room areas



Joseph W. Molitor photos



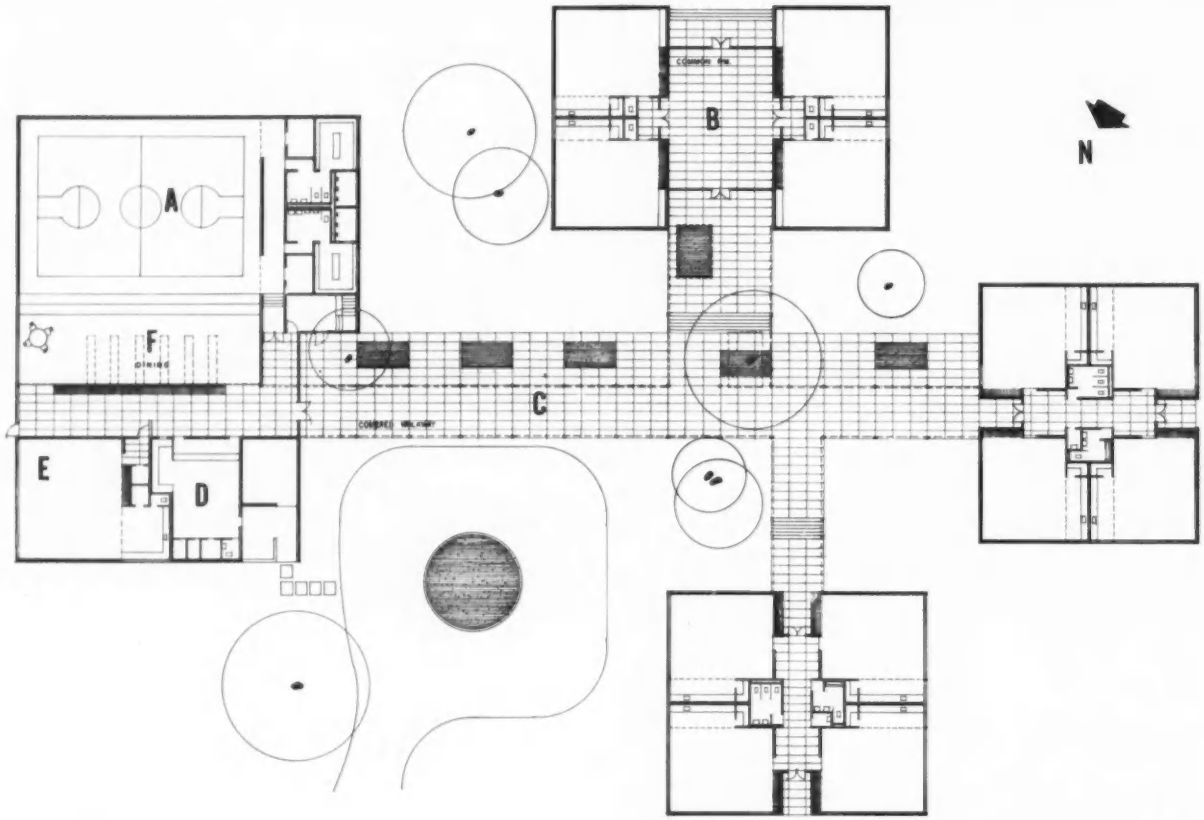
CAMPUS SCHOOL IN SCALE FOR SMALL CHILDREN

The four separate buildings of this campus-planned school, with their connecting walkways, form a pleasant and efficient plant for the elementary grades. The scale of the school and all of its details are simple and in small scale. The architects feel that this was the most desirable way to treat the building, from the viewpoint of the students. Happily, the solution is in complete harmony with the large, wooded site located in a residential area north of Cincinnati. As it turned out, the final construction costs were considerably lower than those of compact schools of similar size in the area. The scheme of the school is based on the separation of activities and classes into four units. One building houses grades one and two, another grades three and four, the third grades five and six; the last contains the kindergarten and activity areas. The overall plan of the campus has been developed to meet the needs of present-day educational practices at a cost consistent with the intent of the school system. All areas are of adequate size to function efficiently. Sound absorption and transmission were closely studied and designed for. In this way, restlessness and fatigue of the young pupils are considerably reduced. The design provides for community use of portions of the school after hours without opening the entire plant.



Joseph W. Molitor

Hilltop Elementary School, Wyoming, Ohio: Charles Burchard, A. M. Kinney Associates, Architects and Engineers; Richard E. Grant, Landscape Architect; Wagner, Inc., Contractor



A. All-purpose Room
B. Common Room
C. Covered Walk
D. Kitchen
E. Kindergarten
F. Dining Area

Hilltop Elementary School



Joseph W. Molitor photos









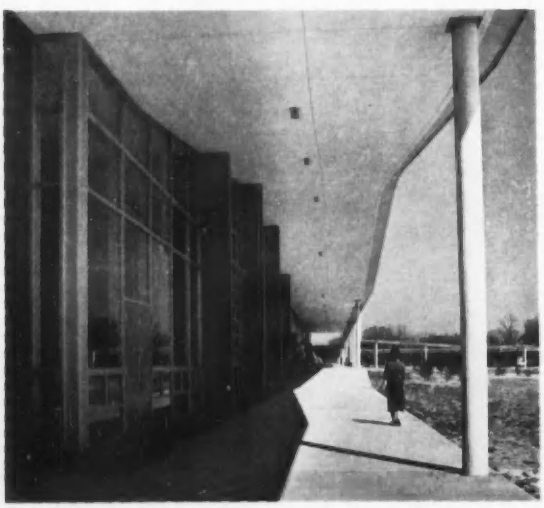
Between the first grade classrooms and the second, a common room is provided for the use of the children. Radiant heating panels are installed in the ceiling here, as well as in the classrooms and halls. A gas-fired boiler with small size lines has proved economical and efficient

The kindergarten is located in the largest of the buildings, near the multi-purpose room and kitchen. Noisy activities are concentrated in this unit, away from the quieter classroom areas. Interior walls here and throughout the school are painted cinder block. Floor surfacing is asphalt tile

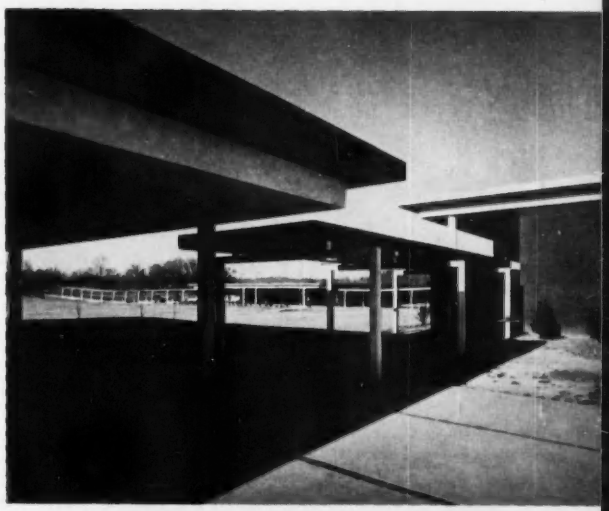
Classrooms have bilateral natural lighting supplemented by three skylights per room and evenly distributed artificial light from recessed fluorescent fixtures. Structural system is made up of cinder block and brick bearing walls with long-span metal roof decking and block partitions.

The multi-purpose room may be used as a gymnasium without the necessity of folding up the dining tables. As shown, the gym portion of the floor is finished with hardwood, while the dining section has asphalt tile as used elsewhere in the school. Adequate storage is provided in all areas.

LARGE SCHOOL ACCENTS OUTDOOR LEARNING



The design of this school reflects the wide-open character of Texas and the expansive attitudes of the people who live there. Texas weather has a lot to do with the design, too. The teaching and activity units of the school spread over the large area of the site. There are almost no inside corridors. Many sports events, physical education classes, assemblies, and other activities take place outside. Students meet and study outdoors. For these purposes, a number of courts are provided. Quiet courts for study and conversation are balanced by activity court areas.

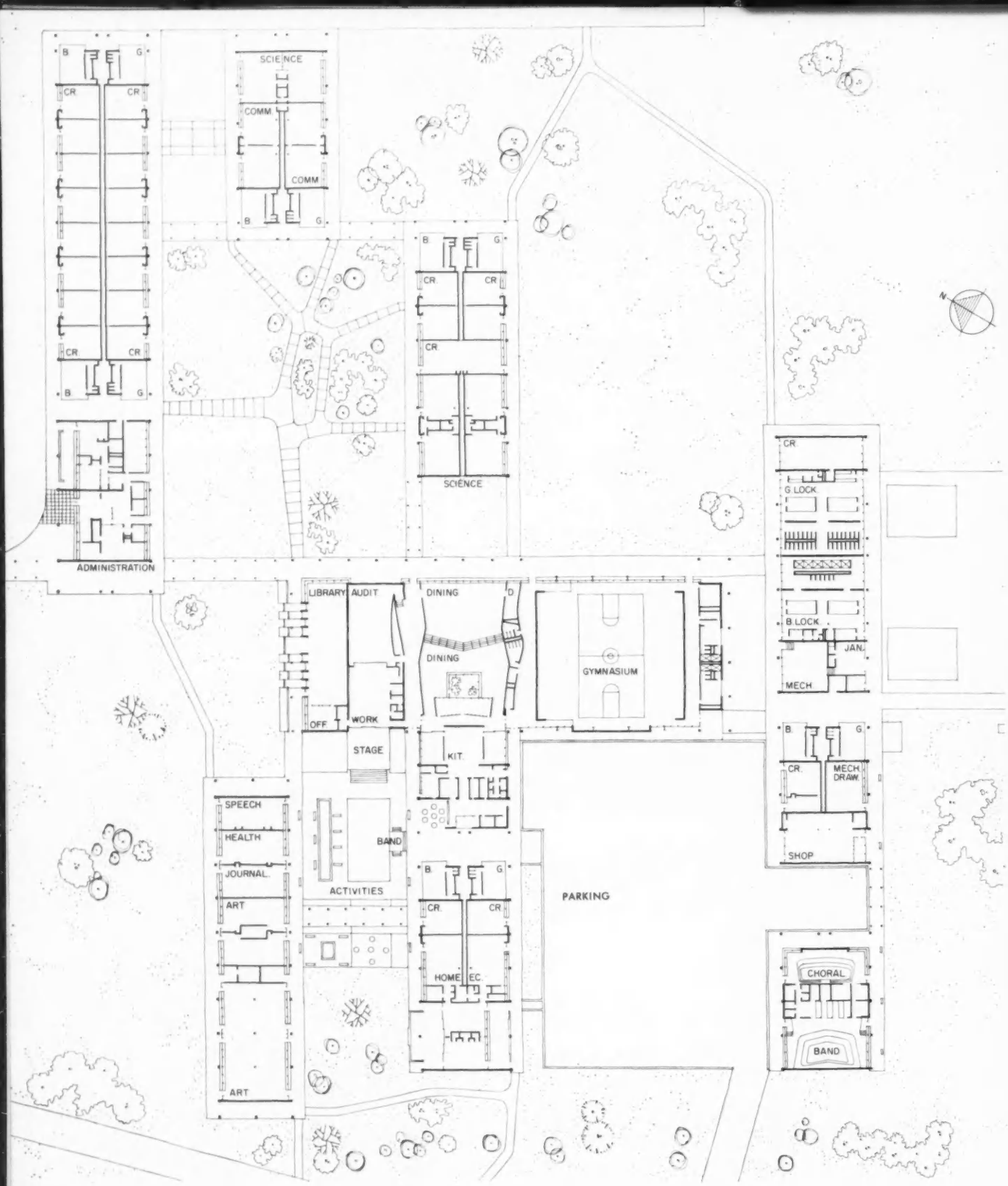






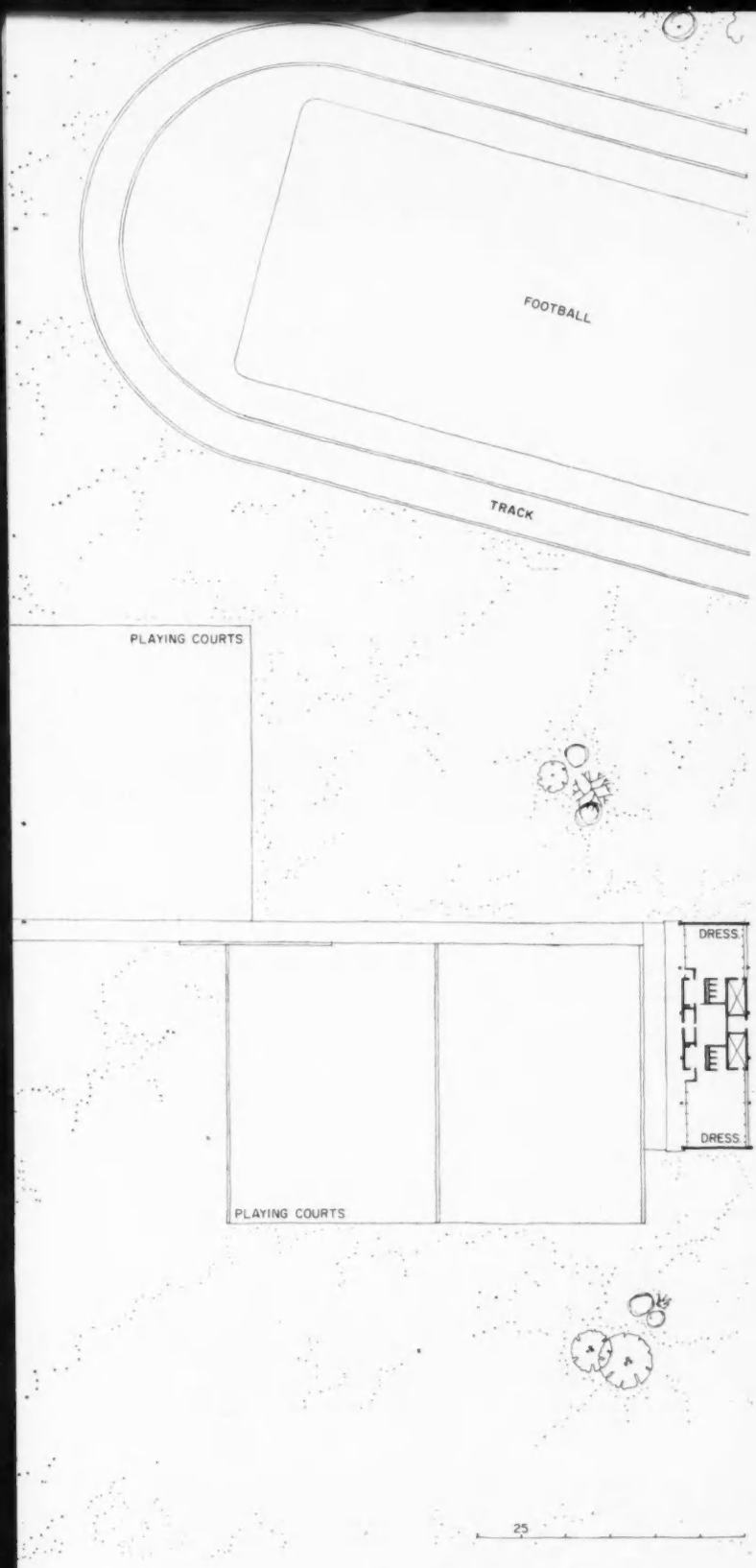
Robert E. Lee Senior High School, Tyler, Texas; Caudill, Rowlett & Scott and Bruce & Russell, Associated Architects; Gregerson and Gaynor, Mechanical and Electrical Engineers; Boner and Lane, Acoustical Consultants; Clanahan Construction Co., Contractors

Covered walkways interconnect the various units of the campus plan (right, top). These are generally of a size for circulation functions alone; a number of larger areas (right, middle) joining the walkways are used extensively by students for gathering places. Some are roofed as shown, others left uncovered. The school has a large number of benches placed in spots where students gather. One example of the completeness of the facilities is the snack bar (right, bottom). Outside of this area is a mall where many of the students have lunch. The school is air-conditioned.



Robert E. Lee Senior High School

The school was planned for an enrollment of 1600, with provisions for eventual expansion to 2000. Over 350 of the students drive cars to school each day. By contrast, only 75 walk. Faculty automobiles and those of students who occasionally drive swell the total automobiles to be parked to about 550. This accounts for the large parking area provided in juxtaposition with the activity areas





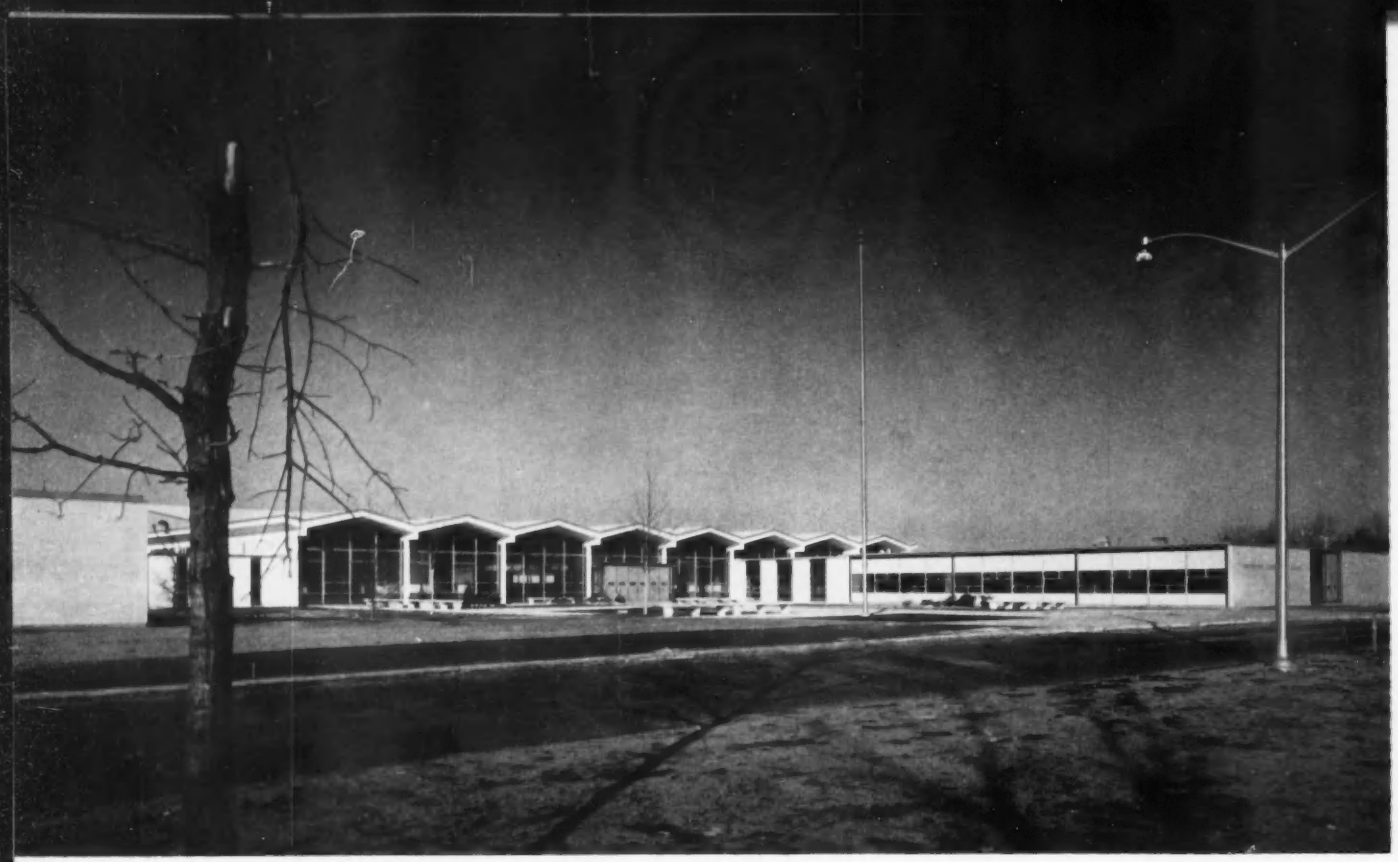






Right, above: unusually complete facilities are provided for band and choral group instruction and practice. The other views show, in order, the enclosed portion of the cafeteria, the gymnasium, and the auditorium. Since the gym seats 2000 and is used for all large indoor gatherings, the auditorium was designed for only 237 students, thus creating an area for smaller meetings

Jay Oistad & Assoc. photos



TWO HIGH SCHOOLS SHARE ACTIVITY AREAS

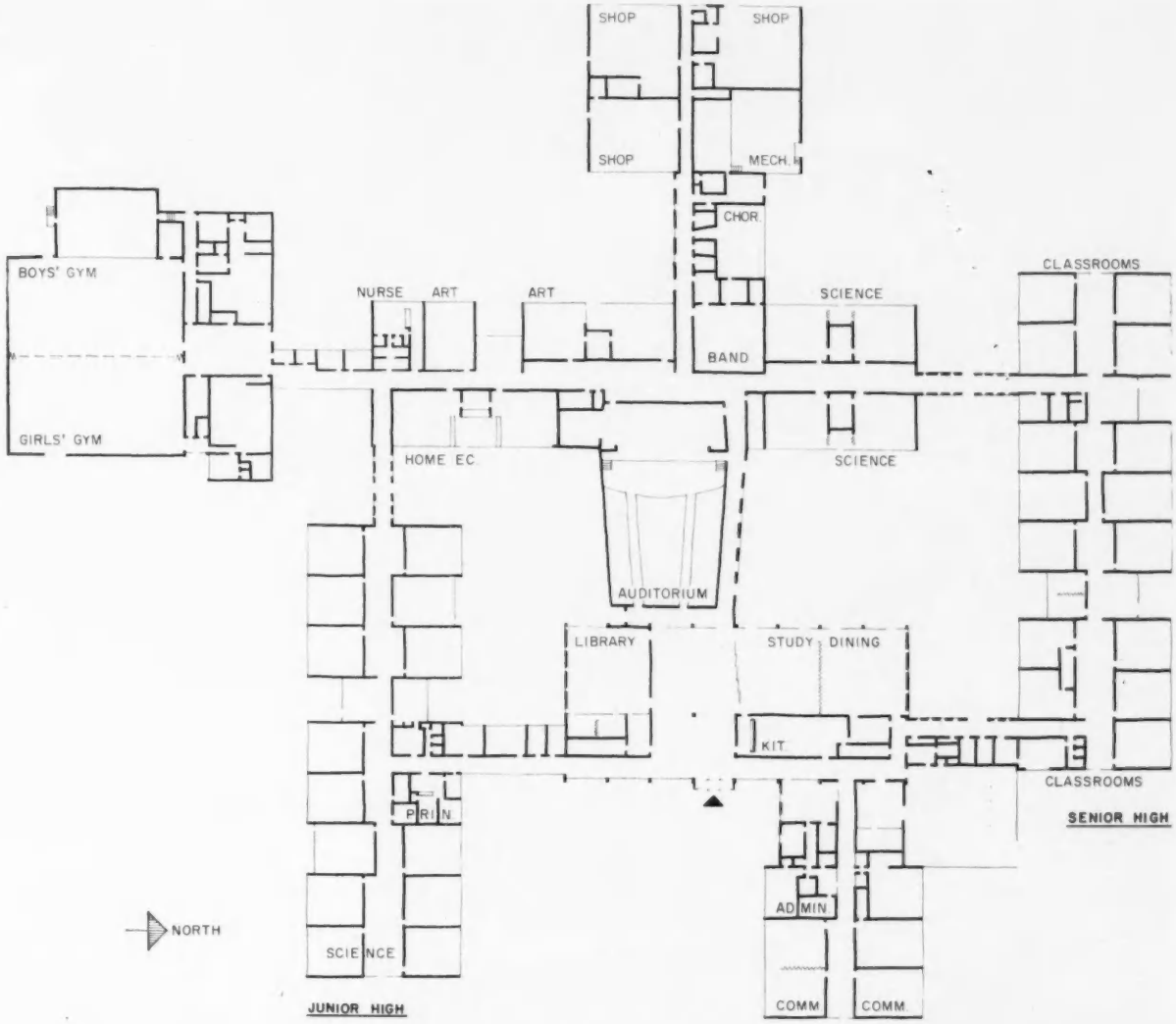


G. Amiaga photos

This high school is actually two. The campus is shared by a junior and a senior high. Each school has its own separate teaching facilities. They share activity areas such as the auditorium, cafeteria, gymnasium, and library. The design is such that the students of the two high schools interfere with each other very little. Since many smaller communities (and their architects) are faced with similar problems, this successful solution of the problem is of value.

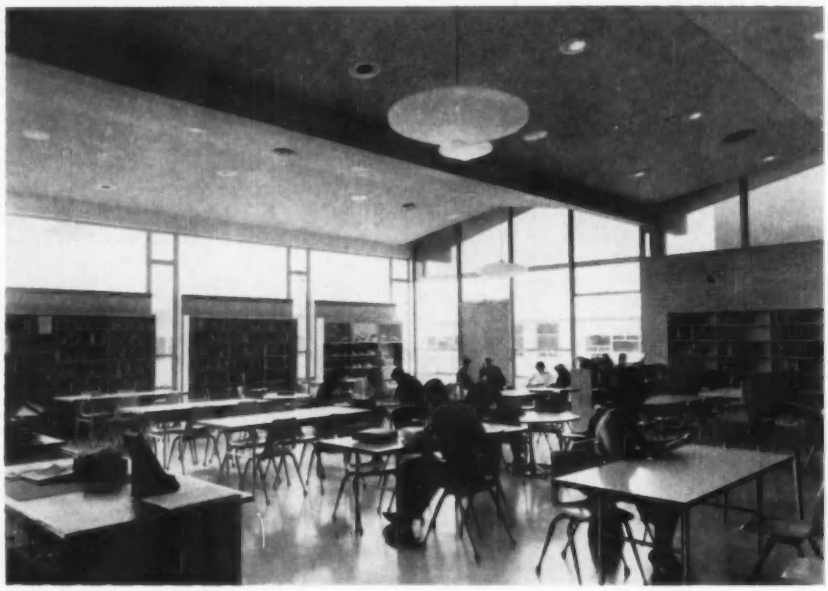
Except for the gymnasium located at the extreme end of the complex, all of the common areas of the schools are centrally located. Senior high classrooms are in the wing to the extreme right, junior high to the left. Shops are removed from the quieter areas and placed at the rear of the campus. Courts located between the various wings were planned for student use. Eventually, another high school will be constructed on this site. At that time, each school will house three grades.

Smithtown Central High School, Smithtown, New York, Ketchum and Sharp, Architects; Dr. Walter D. Cocking, Educational Consultant; Severud-Elstad-Krueger Associates, Structural Engineers; Consentini Associates, Mechanical Engineers; Paschall Campbell, Site Engineers; Edward Corning Company, Contractors


SHOP
SHOP
SHOP
MECH.
CHOR.
BOYS' GYM
NURSE
ART
ART
BAND
SCIENCE
CLASSROOMS
GIRLS' GYM
HOME EC.
SCIENCE
AUDITORIUM
LIBRARY
STUDY
DINING
KIT.
CLASSROOMS
SENIOR HIGH
PRIN.
NORTH
SCIENCE
ADMIN.
COMM.
COMM.
JUNIOR HIGH







Smithtown Central High School

Left, above: commons room is extensively used by the students. Left, middle: library adjoins the commons. Below, left: lockers and coat spaces are located outside home rooms. Below, right: science rooms combine lecture spaces with labs





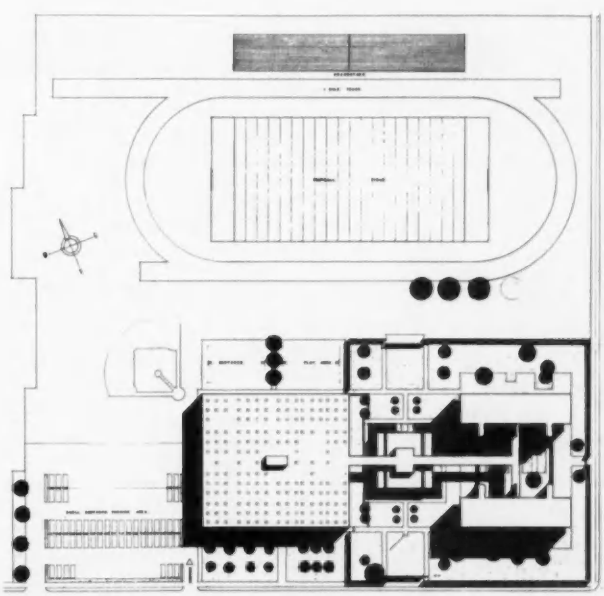
G. Amiaga photos



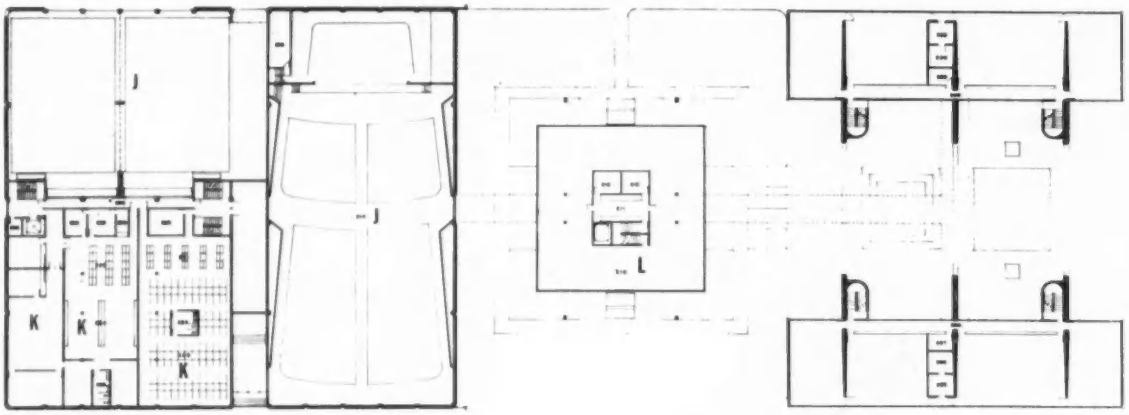
SCHOOL PROVIDES VARIED STUDENT ENVIRONMENT

The underlying philosophy of the design of this junior high school is that the learning process is strongly affected by environment. The basic principles of this philosophy have been stated before by the architects of this building in a prototype school (ARCHITECTURAL RECORD, Sept. 1957). The principles are put into practice in the design of a building for the first time in this proposed school.

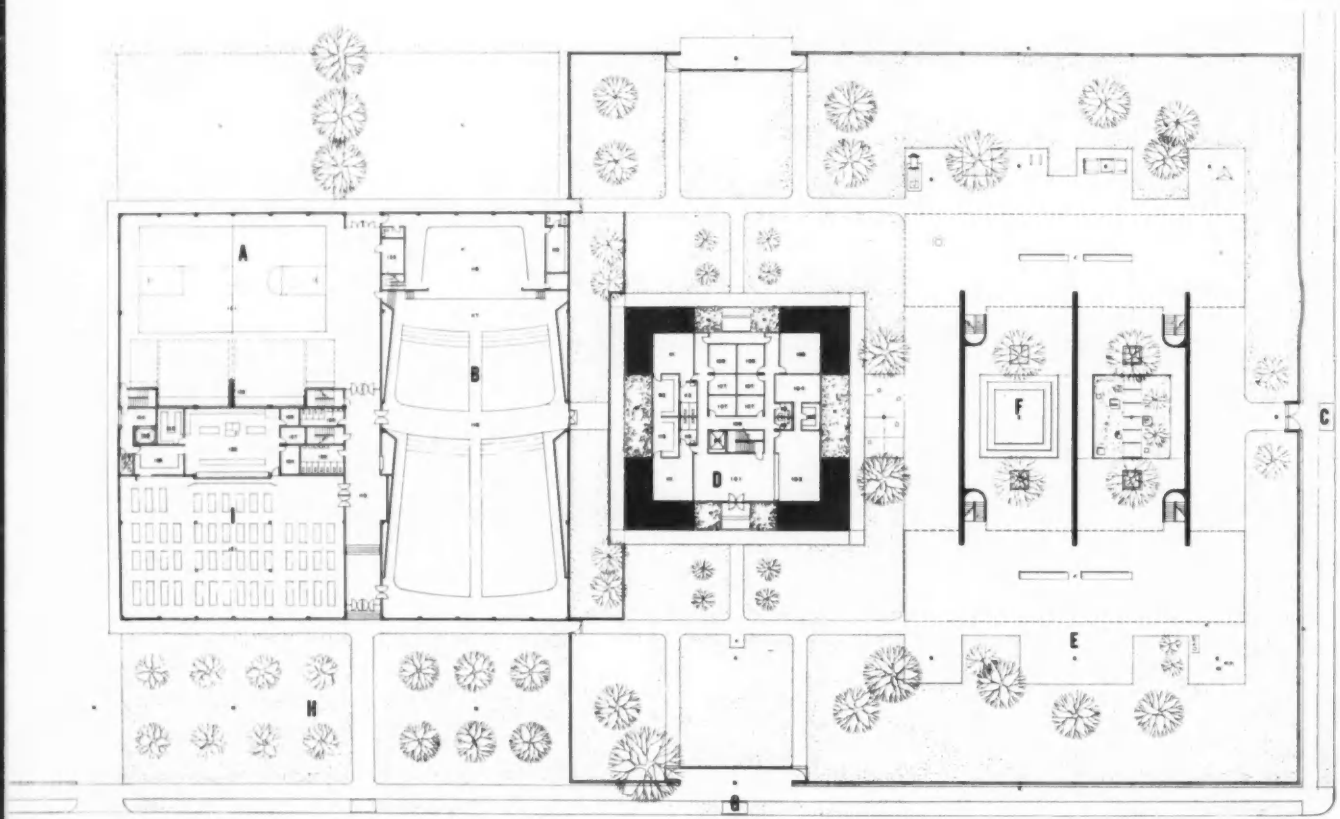
Essentially, the principles are expressed in this school by the provision of many different kinds of spaces, vistas, closed-in areas, objects, low levels and high, all combined into a complex allowing for varied perceptions and experiences. The school is noteworthy for other reasons. It is a five-story scheme in an area which has always had low-level schools. This is primarily an answer to the problem of a limited site. It also provides for a variety of experiences. The school has order; it has simplicity and human scale. Both are admirable accomplishments in view of the complexity of the program and the diversity of the spaces.



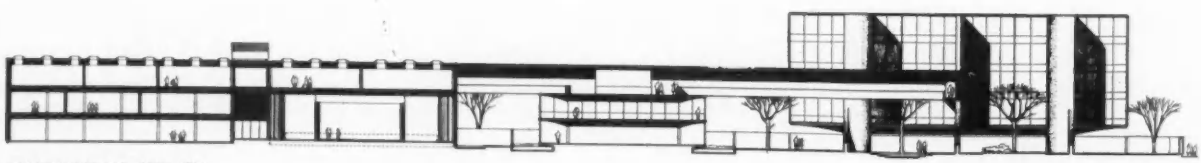
Lawless Area Junior High School, New Orleans, Louisiana; Charles R. Colbert of Colbert-Lowrey-Hess-Boudreaux, Architects



SECOND FLOOR



GROUND FLOOR

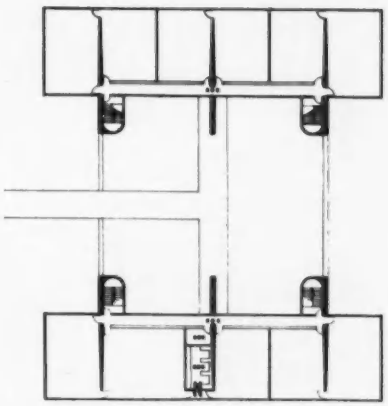


LONGITUDINAL SECTION

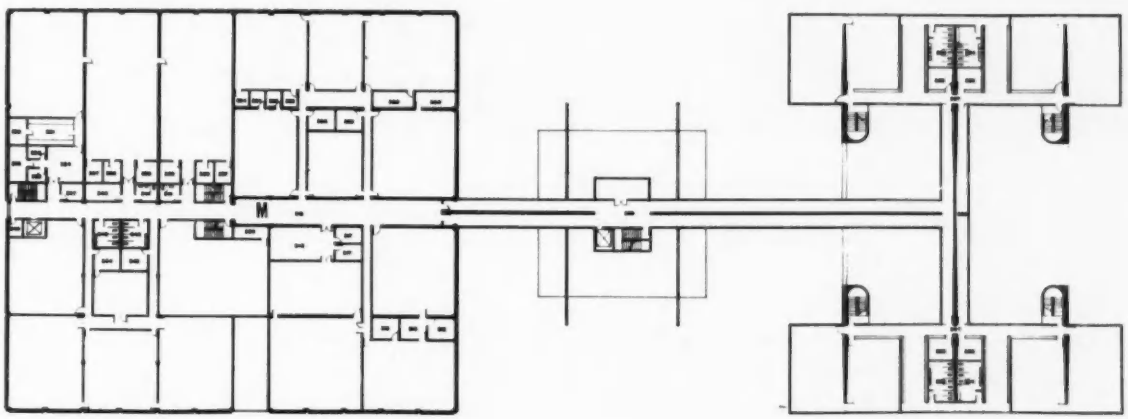
Lawless Area Junior High School

Students may enter the school ground through any of a number of entrances, thus minimizing confusion and congestion at the beginning and end of the school day. The major entrance to the buildings is located between the auditorium and cafeteria. From the lobby located here, entry may be had to the gym, cafeteria, or auditorium. Stairs lead to the upper floor shops and special classrooms. The covered walkway at the third level allows traffic to flow between this element, the library and the regular classroom units. The auditorium and gym are two stories high. The two classroom buildings are five stories high; the first level is used for open, but covered, conversation and projects areas. The four remaining floors are much alike in plan. Each contains classrooms of various sizes. Two sets of stairs for each unit interconnect all floors and give access to the ground level. The administration suite is centrally located on the ground level.

The structure of the three-story activity-special classroom building is reinforced concrete frame. It is not unusual except that the third floor is supported by story-high trusses in the walls. The structure of the two classroom buildings is unique. It is composed of three inverted hairpin concrete forms with cantilevered arms supporting the floors. The third floor walkway is essentially a self-supporting concrete H beam



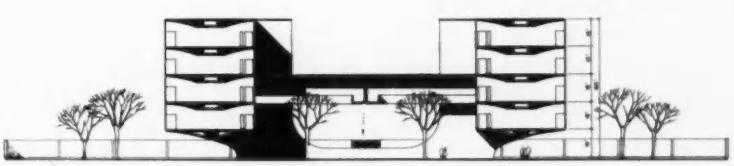
FIFTH FLOOR (Fourth Similar)



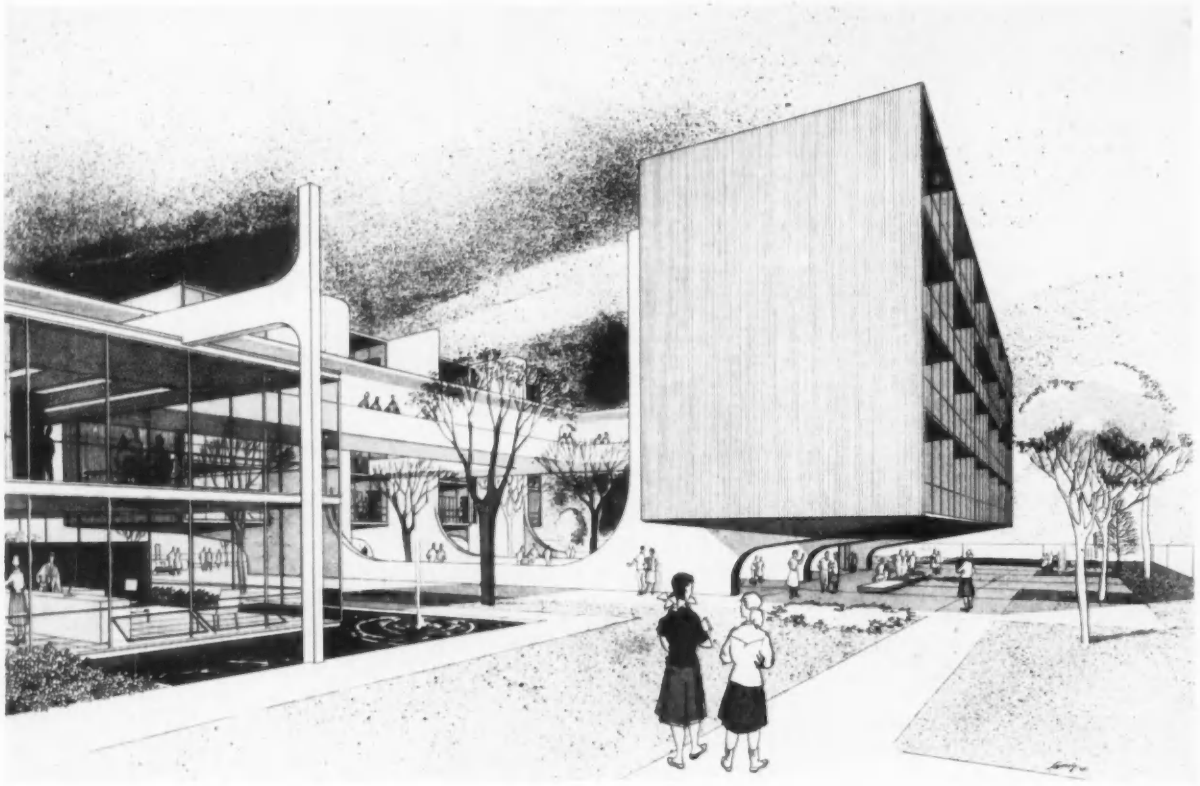
THIRD FLOOR

LEGEND

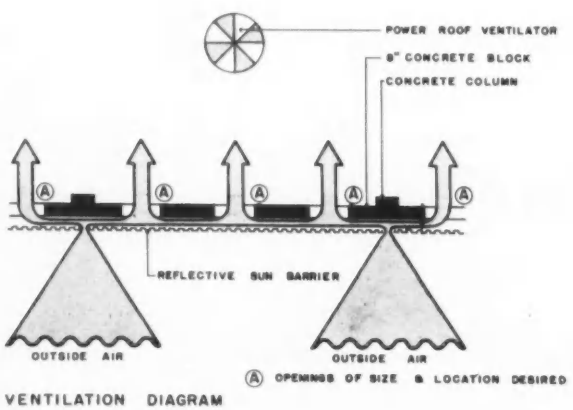
A. Gymnasium	H. Orchard
B. Auditorium	I. Cafeteria
C. Entrance	J. Upper Auditorium, Gym
D. Administration	K. Locker Rooms
E. Educational Aids	L. Library
F. Conversation Area	M. Shops, Special Classes
G. Projects Area	N. Audio-Visual Room



TRANSVERSE SECTION



Lawless Area Junior High School



VENTILATION DIAGRAM

The cantilever hairpin structural system may be seen in the view above. Each of the hairpins is counterbalanced through the placement of a classroom unit on either side. The counterbalanced structures are tied together by a lateral concrete walk at the third level. Pools and fountains similar to that shown are to be placed in a number of locations on the school grounds. Of them, the architects say, "these are intended as symbols of water sources in nature and allow cool aeration of the air." The windowless shop areas will be ventilated by means of high capacity fans using the corridors as plenums. Shown at the left is a detail of the floor plan of this area. The flow of air through openings in the reflective sun shields and the walls may be seen in this diagram



Joseph W. Molitor

In the role of consulting architect for the University of South Carolina, Edward D. Stone helped establish the library design. Lyles, Bissett, Carlisle and Wolff were the architects.

NEW LIBRARY IN THE CLASSIC TRADITION

Joseph W. Molitor



NAME: *Undergraduate Library*
OWNER: *University of South Carolina*
LOCATION: *Columbia, South Carolina*
ARCHITECTS: *Lyles, Bissett, Carlisle and Wolff*
ASSOCIATE ARCHITECT: *Edward D. Stone*
LANDSCAPE ARCHITECTS: *Innocenti and Webel*
LIBRARY CONSULTANT: *Dr. Keyes Metcalf*
INTERIOR DESIGN CONSULTANTS: *Jack Scoville Assoc.*

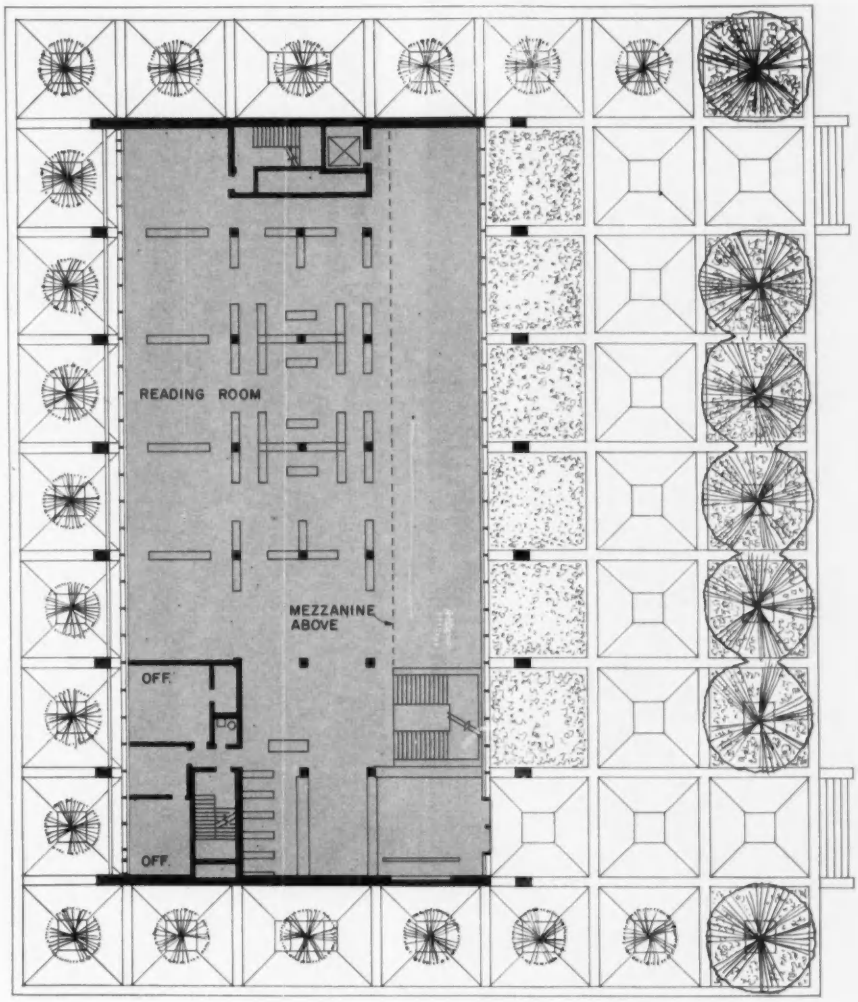




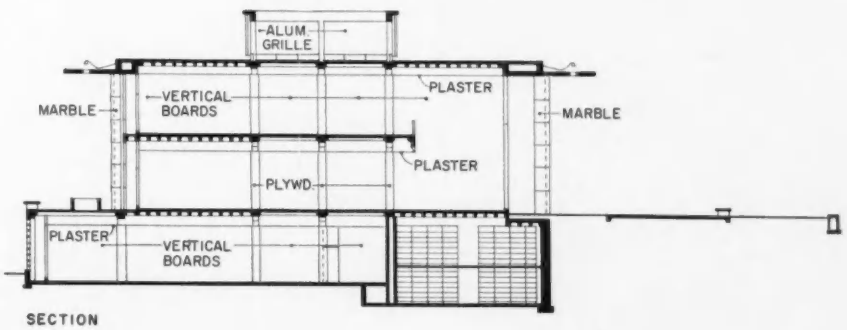
The tradition of the campus at the University of South Carolina is classical. Buildings of the American Colonial period share the academic scene with those in the English Renaissance manner. Nineteenth century classical revival buildings are part of this theme. Edward Stone described the location of the new library as the "center of gravity of the campus." Classically symmetrical, the building has been placed on the axis of a quadrangle. Its balanced composition on a podium base relates it to the similarly ordered dormitories which Stone designed earlier with architect G. Thomas Harmon. (See seven-story structures in the photograph at bottom left and ARCHITECTURAL RECORD, February 1958.) The gold anodized aluminum screen at the south wall of the structure and the patterned brick wall of the podium are in the Stone tradition and harmonize with the continuous concrete screens of the dormitories.

The north and south walls are glass. The end walls and columns are faced with golden vein Georgia white marble. The base and terrace platform are brick in pale pink tones, with divider strips and center squares of gray quartzite stone from Tennessee. This stone is also used in the copings, steps and bench railings. Window mullions and other metal surfaces are anodized gold. The plant boxes are marble.

Total cost of the building including furnishings was $900,000.



PLAN



SECTION

The building is sited over a former city street about 12 ft below the upper campus level. This grade differential was used to advantage by locating the entrance at the mid-level between the ground and mezzanine levels. The main floor is 150 ft long and 75 ft wide, the mezzanine is 150 ft by 52 ft, and the lower level is 200 ft by 100 ft. The total area is 40,000 sq ft

Joseph W. Molitor



Gold anodized screens shield glass on south wall



Main entrance from north podium is monumental

Right: mesh curtains of copper wire and discs of gold aluminum minimize glare on north wall

Two-story reading room and mezzanine. Interior walls and columns are paneled in natural finish African mahogany. Book shelves are of this material. All reading areas are carpeted to cut down noise and to create a warm non-institutional feeling





Joseph W. Molitor



Dramatic stair connects three levels



Ground level under podium. Note pierced brick screen



Mezzanine reading area

The library has space for 60,000 books and storage area for 150,000 more. The students obtain books by going directly to the open stacks which enables the library to keep a smaller operating staff. The stacks are centrally located on all floors with direct access from the entrance or stairway. Students pass through the stacks before reaching the reading areas which are therefore relatively quiet

Architectural Engineering

Air Conditioning—Today and Tomorrow

Today's air conditioning systems are capable of producing a comfortable, clean, healthful atmosphere. Tomorrow's systems may be able to simulate invigorating mountain air or a relaxing sea breeze. With a long stretch of the imagination we might envision a series of punched cards for a climate machine with such legends as "Miami in January" or "Maine in August." This will come about not so much through fundamental developments as through gradual improvement of equipment, better system design and identification of the characteristics that comprise an ideal atmosphere. Research men and engineers speaking at the Building Research Institute Spring Conferences in New York last month pointed out that even now the indoor climate can be controlled within close limits; on the horizon are systems which might influence man's moods as well as his comfort.

Finn J. Larsen, research director for Minneapolis Honeywell, described the air conditioning for a space cabin simulator 5 by 8 by 12 ft in which two men will soon take a thirty day "flight." Basic techniques for comfort are not appreciably different from those now in use. A particular problem in space, however, is that the capsule, which has heat-reflecting and heat-absorbing materials on the outer surface, may need to be rotated to keep the occupants from roasting one instant and freezing the next.

Building design has not exploited the freedom in planning that air conditioning permits, suggested William L. McGrath of Carrier at the BRI meeting. For example, he maintains that "cross ventilation" is an anachronism, since air conditioned buildings do not have to be designed in such shapes as "L's, O's, H's, U's, E's and T's, a veritable alphabet soup." McGrath said that total air treatment (i.e., control of temperature, humidity, dirt and dust, allergens, odors and contamination) is in large measure obtainable today at a saving over traditional practice.

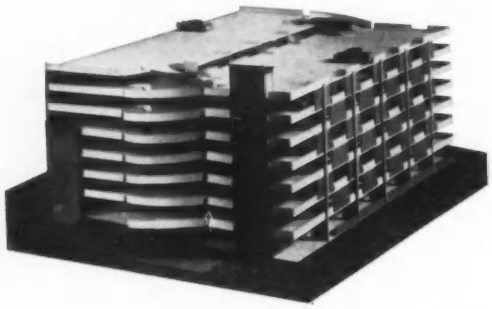
Multifarious bacteriological problems associated with air handling systems in hospitals were discussed in a paper by Dr. V. William Green and associates at the University of Minnesota. Items: Distribution of airborne bacteria and viruses is a complicated process (an unguarded sneeze or cough could contaminate a patient several stories away). The ventilation system must be designed specifically for each hospital area. (A nursery or delivery room might call for positive air pressure to prevent contamination from nearby hallways. On the other hand, such a condition for an isolation ward might endanger everyone in the surrounding area; air lock arrangements might provide a solution.) The overall structure must be kept in mind in relation to air flow, Greene said, since shafts, stairwells, etc. offer pathways for microbe-laden air. In operating rooms, a refinement of the air dilution method for reducing bacterial count is the "piston" effect in which supply air is introduced over the total ceiling area and exhausted at the floor [Ed. note: see last month's AE section for a recent development of this sort.]

Heave Ho!

There's always a Texas story. This one relates to a new kind of foundation problem for tall buildings on deep clay soils and is called "foundation heave." Instead of settlement as is encountered with most buildings, there is an upward movement of soil in adjacent areas. Cause, explained by Bramlette McClelland, Houston consulting engineer, at the February ASCE convention, is trend toward larger basements which subtracts from the gross pressure of buildings. At Rice University Stadium in Houston, the playing field, located 25 ft below natural grade, has risen 4 to 6 in. relative to the concourse in seven years.

This Month's AE Section

PARKING GARAGE HOLDS 500 CARS AND A HILL, pp. 224-226.
Forgotten Engineering: *POST AND LINTEL POSTDATED*, pp. 227-231.
HARNESSING THE COMPUTER FOR SPECIAL STRUCTURES, pp. 232-233.
PRODUCT REPORTS, Selecting Service Fixtures for School Labs, p. 234, 235.
OFFICE LITERATURE, p. 229. *TIME-SAVER STANDARDS*, pp. 239, 241, 243.



PARKING GARAGE HOLDS 500 CARS AND A HILL

O'Hara Parking Plaza at the University of Pittsburgh will have a structure that opens up interior spaces and pushes back the earth

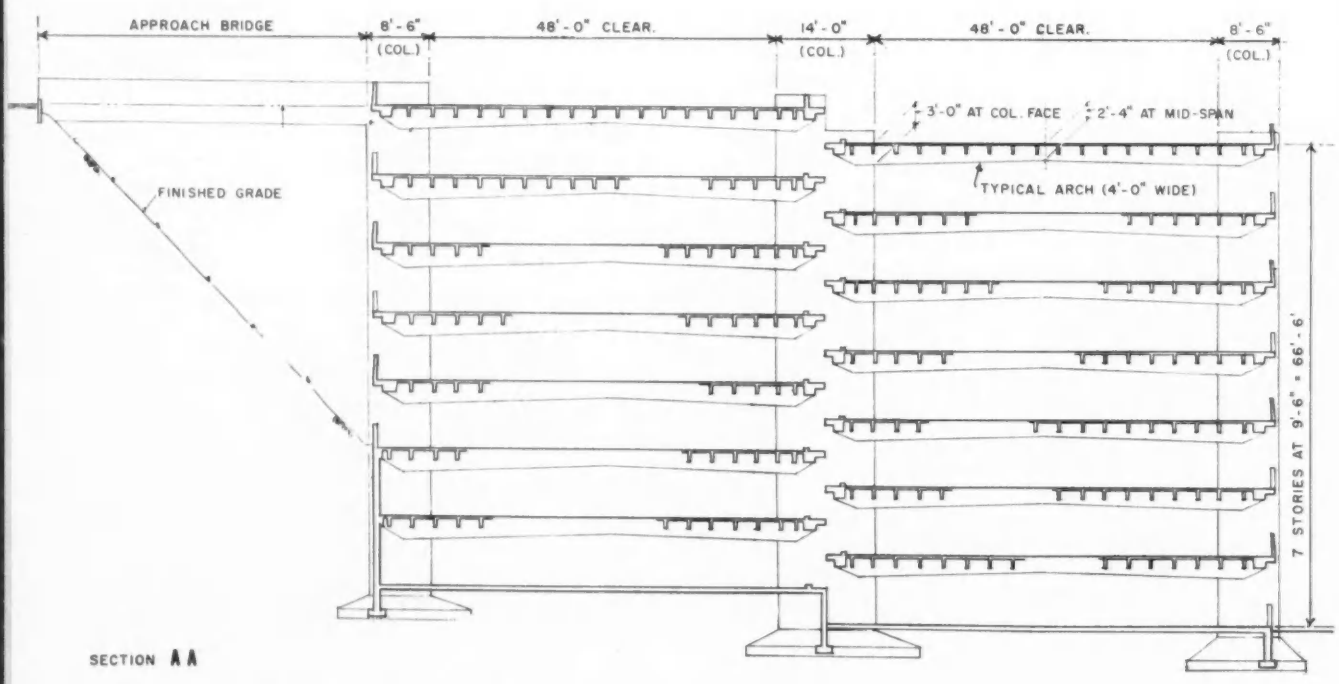
Architect: Tasso Katselas. Structural Engineers: Gensert, Williams & Associates. Soils Analysis: David V. Lewin. Mechanical Engineers: Howard D. Bennett & Associates. Electrical Engineers: Anton J. Eichmuller. Contractor: Navarro Corporation.

Various structural systems have been used for parking garages to squeeze the maximum number of car spaces into a given volume. Framing for the O'Hara garage not only satisfies this function, but takes on the job of resisting the pressure of an adjacent hill. The large spans offer a great deal of flexibility for maneuvering automobiles, and the shallow, haunched beams (called arches on the drawings) permit the required number of stories to be sandwiched between the upper and lower streets.

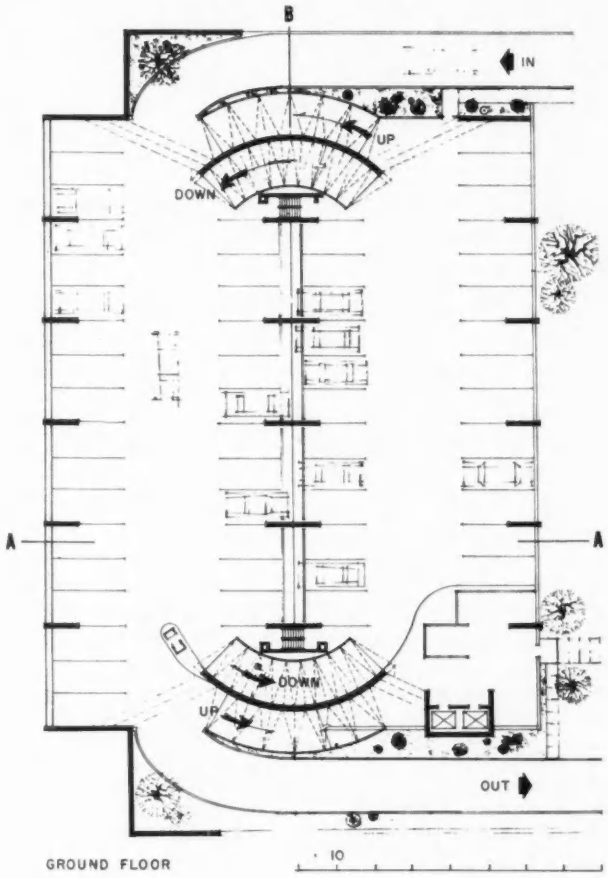
The columns are unusually deep to take lateral load, but they were made only 14 in. wide to gain usable space. The haunched beams are only 3 ft deep at the columns and 2 ft 4 in. in the center, made possible by the fact that so much of the bending moment is thrown into the columns. Because of this, the beams had to be 48 in. wide at the column face.

Design of the ramps indicates careful attention to the interrelationship of function, structural efficiency and appearance. Supports for the cantilevered ramps might have been cantilevered brackets with a slab on top. Since slab brackets in concrete construction act together, it was natural to fuse the element as indicated on the plan.

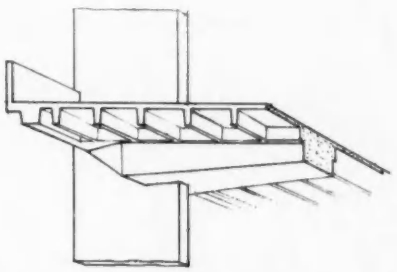
Curved walls supporting the ramps will be accented by means of vertical grooves to disguise any irregularity in formwork and to act as control for shrinkage cracks.



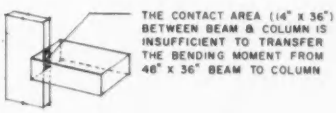
SECTION A A



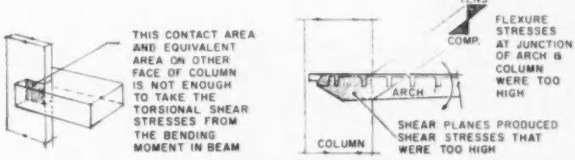
COLUMN, BEAM DESIGN



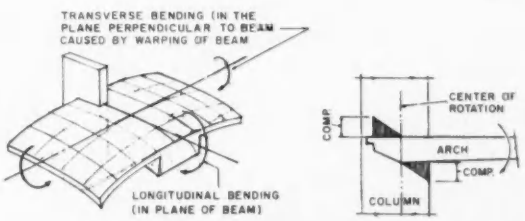
The basic structure is a deep, thin column, a wide, shallow beam and a ribbed slab. Theoretically the beam could be attached to the column in several ways. Below are the engineer's sketches and comments showing his approach to the problem. Structural behavior of the full frame is shown on the next page



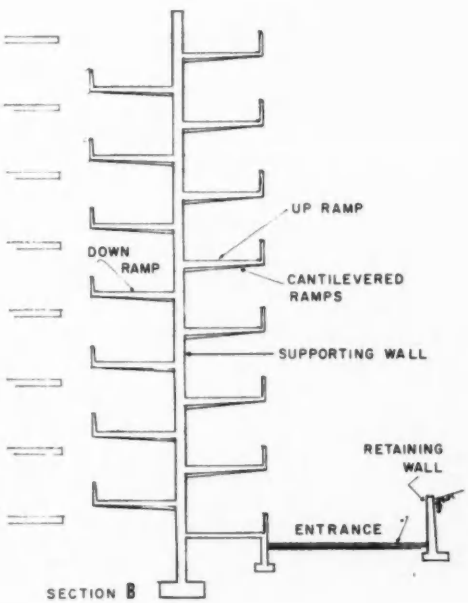
Obviously the beam cannot be attached merely to the edge of the column. Such abrupt transition will not work



If the arch is considered as a fork with prongs on either side of the column, torsional shear would be excessive



The final scheme was based on a notched column, with a rigid arch extending into the column. A check on bearing stresses at top and bottom of the notch gave a satisfactory solution



GARAGE CIRCULATION

Circulation is a one-way feed through split levels. Aisle widths give space for passing and for backing up so that circulation is unimpaired by approaching vehicles. The ramp system is a cantilevered section independent of the main structure

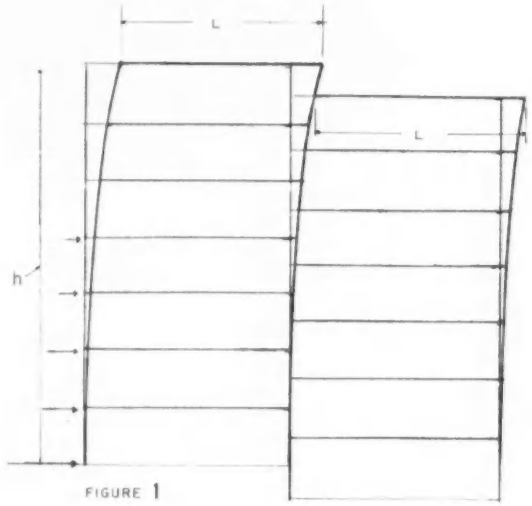


FIGURE 1

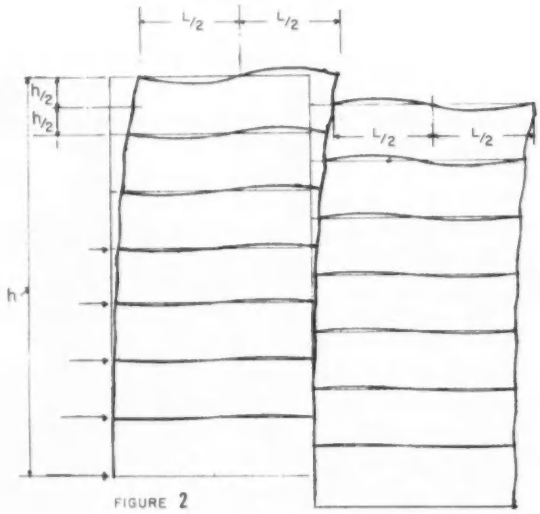


FIGURE 2

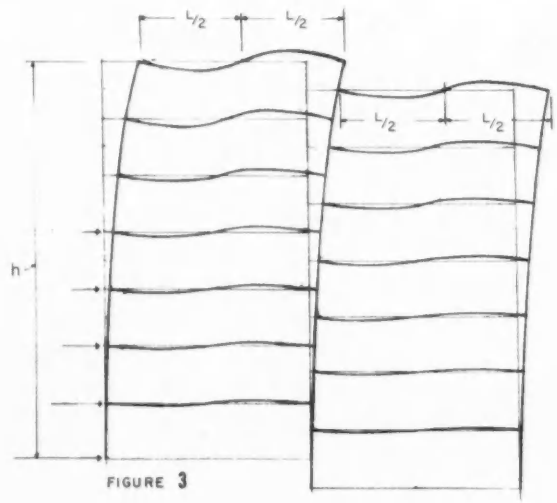
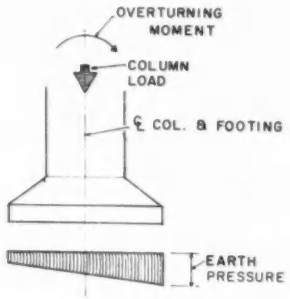
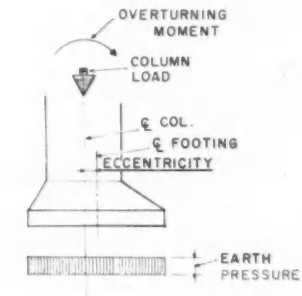


FIGURE 3





FOOTING DESIGN

The earth produced large overturning moments in the foundations. These moments required a large extension of the column footings to keep earth pressures within limits. By putting an off-set on the footing, it was possible to make the moment from the column load and eccentricity balance the moment from the hill. Footings were sized for vertical loads only

THREE ASSUMPTIONS FOR FRAME ACTION

Figure 1. Here it is assumed that columns act as cantilevers with the beams transmitting thrust from one column to the next. The beams are designed for a thrust, but not a bending moment from lateral loads. Although the analysis is simple, it is incorrect since the beams are not free to pivot at the column when the column is rotated

Figure 2. This typical approach to the analysis of a bent assumes rigid frame action with points of inflection at the mid-height of all columns in each story and at the mid-span of all beams. Before this assumption can be true, the stiffness of beams and columns must be nearly equal. This condition does not exist because beams are considerably longer and shallower than the columns

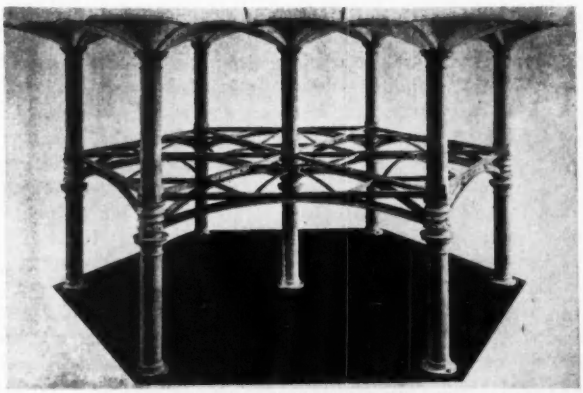
Figure 3. In this solution, cognizance is made of the great stiffness of the columns, and the rigid connection of beam and column. Unlike Figure 2, the beams receive a bending moment from the rotation of the columns. Since the cantilevered columns undergo their greatest rotation at the top, the uppermost beams receive the maximum bending moments which are proportional to the column rotation

Forgotten Engineering:

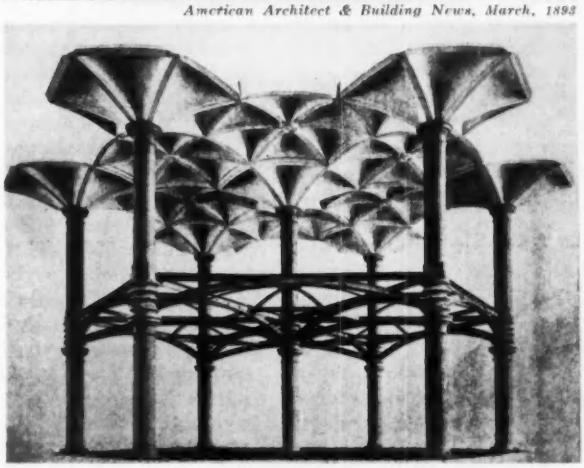
POST AND LINTEL POSTDATED

by Alan Burnham, A.I.A.

In this second article in his series on "Forgotten Engineering," Mr. Burnham tells of a floor system that economically combined a web of steel framing with integral fireproofing and an elementary form of war air radiant heating. As the model photo below shows, the system, with its network of tiny groined vaults inscribed in polygonal bays, bore more resemblance to some recent work in plastic and concrete than to current steel construction. In its day, it too was a new and inventive use of a still-new material. But it disappeared with the advent of the skyscraper, leaving no trace—except, perhaps, such recent developments as space frames and geodesic domes.



American Architect & Building News, March, 1893



Writing for the RECORD in 1892, Louis De Coppet Berg, a distinguished civil engineer and member of the architectural firm of Cady, Berg & See, said about developments in iron construction in New York City: "The great trouble . . . is not so much the material used as the slavish following of old constructive ideas. . . . Why, the old Egyptians, thousands of years before our era, put stone girders on stone columns, and at right angles to these the stone beams forming the roof coverings. . . . Now we make steel do the same." [11]

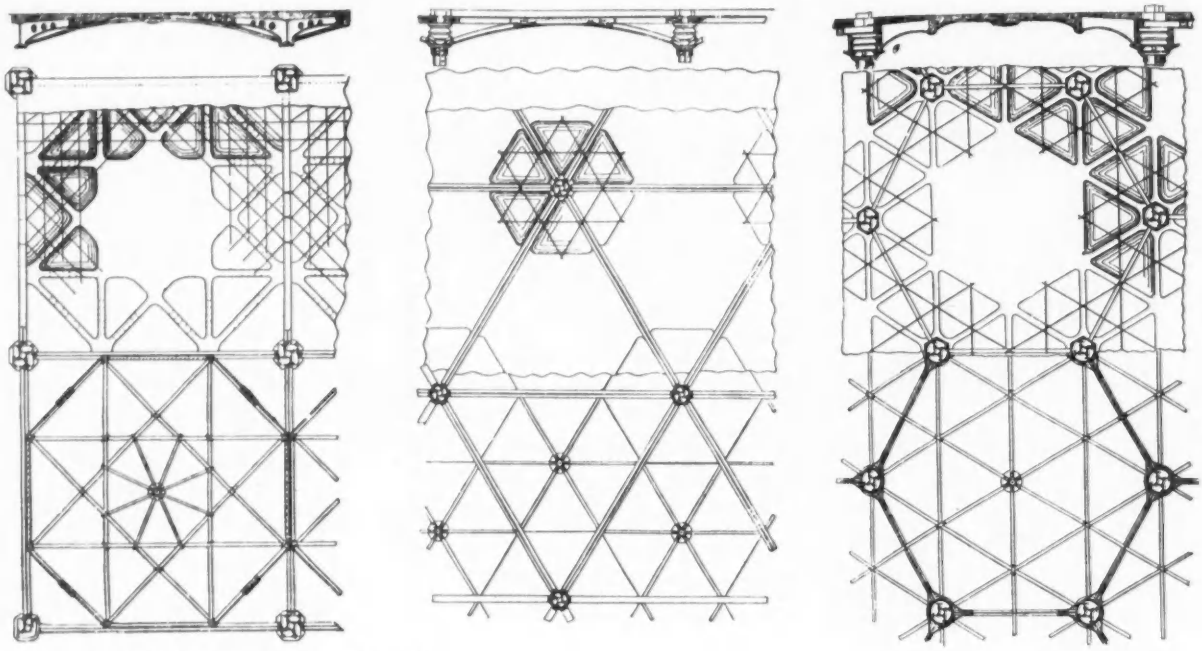
He asked whether no one could invent something new after all these centuries, and went on to cite hopefully the then newly-patented designs of Niels Poulson as a step in this direction. Not content with a floor system that consisted of flooring supported on beams supported on girders, Poulson had devised one which bridged from column to column in a single flying leap. It also could be readily fireproofed and made possible an elementary form of warm air radiant heating.

Poulson himself was an immigrant Danish mason who had earned for himself the title of "The Danish Ironmaster" by becoming, in true Horatio Alger fashion, the proprietor of the Hecla Iron Works (formed as Poulson & Eger), a large and successful enterprise whose ornamental iron work still adorns many buildings—and subway entrances—in New York City and Brooklyn. Along the way, he exercised his engineering talent by designing and developing, among other things, the unique floor framing system shown here.

Square to Hexagon to Triangle

Poulson's framing system was designed to occupy one bay, carried by columns or by walls, but it could be multiplied indefinitely horizontally, each bay adjoining the next, while producing virtually no lateral thrust on neighboring bays or on the outside walls.

[11] For this and following references, see bibliography on page 248



American Architect & Building News, March, 1893

In its first and simplest form, as adapted to small structures with square bays, it was described as follows: "Flat iron bars are placed across the entire span of the room . . . crossing each other at right angles and diagonally across the corners, the whole [being] bent to the 'natural arch curve' by rolling, and riveted together at all intersections." [11]

The outer periphery in this system became an octagon which absorbed the outward thrust of the arched members in the iron-ribbed dome. By 1893, Poulson had adapted the system for use with hexagonal and triangular bays, in addition to the octagon-inscribed square bays. These too were capable of indefinite multiplication, the arched trusses absorbing lateral thrust and transmitting the load of the floor system directly to the columns. Only the lower chords of the trusses were given an arched form, so that their top chords and the floor members carried by the intermediate arched ribs remained horizontal.

Since the arched ribs were being made of heavier sections—tees and angles—this type of construction, in its various forms, had by this time (1893) become practical for stores and large office buildings, and in fact, was used in one of the buildings at the Hecla Iron Works. A photograph of the drafting room in this building clearly shows the square bays with their domical system of ribs springing from the lower chords of the trusses that arched between the columns.

In a talk, illustrated with models, which he gave at the Massachusetts Institute of Technology in 1893, Poulson claimed that such an arched system would cost only one-third as much as the usual type of beam and girder construction, since the dead load was self-supporting and was carried directly to the columns.[13]

Integrated Structure: Circa 1890

In addition to the structural features embodied in this floor system, Poulson answered one of the primary construction problems of his time (and ours, for that matter) by introducing an effective method of fireproofing. Like some other methods then in use, it depended on plaster to protect the lower flanges of structural members from direct exposure to flame.

In Poulson's system, plain or ornamental plaster ribs, moulded to the proper curve and cut in lengths to suit the conditions, were applied to the underside of the arched steel ribs. Next rubber bags were placed in the spaces between the ribs and inflated with gas or air so that they assumed a natural curve. On top of these miniature triangular "forms" a thin, uniform layer of plaster of paris or cement was spread. When it had set, the bags were deflated and removed, leaving the plaster "spandrels" intact. In this way, the entire steel floor system could be protected on the underside by a continuous sheath of plaster work.

Poulson's next innovation was the introduction of a heating system in which the space between the arched ribs and the horizontal floor above was used as an almost continuous chamber for the circulation of warm air. This was achieved by building up pierced, vertical concrete ribs that extended between the top of the arched iron ribs and a point just below finished floor level.

The ribs were constructed using wood forms with suitable inserts to produce circular openings at stated intervals. After the concrete had set, the forms and inserts were removed and "wire netting" (metal lath) was stretched over the top of the pierced concrete ribs. A level concrete floor slab about 3 in. deep was then poured over the lath, complete with wood sleepers to receive the finished flooring. In some cases, tile or carpet was applied directly to the concrete slab, omitting the sleepers.

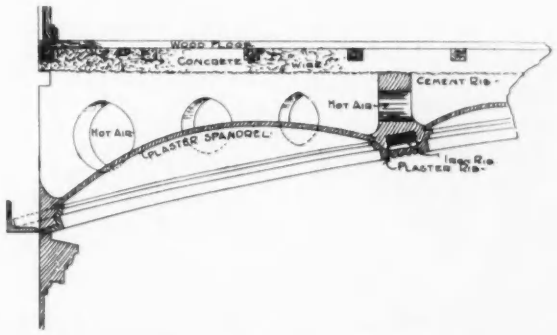
Poulson, comparing this with the brick-arch type of fireproof floor construction then in use, declared that it would cost much less. It used less material and, except for forming the vertical ribs, involved only simple operations — applying precast plaster ribs to steel ribs, spreading plaster over inflated bags, and pouring a concrete fill—which did not demand much labor or skill.

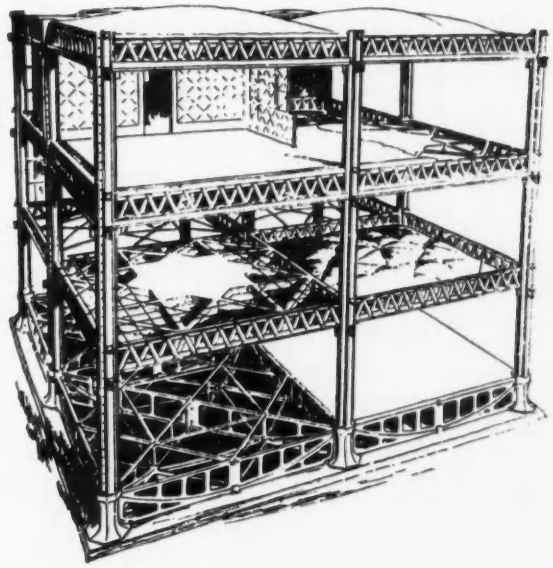
In its earliest form, Poulson's floor system consisted of a network of arched steel ribs laid across a square bay so that they crossed each other at right angles and diagonally. As shown in the plan at far left, the periphery thus became an octagonal "ring" which absorbed the lateral thrust of the arched dome. Later, Poulson also devised systems for triangular and hexagonal bays (middle left and left) outlined by trusses that transmitted the floor loads from the intermediate arched ribs directly to the columns. Since this made the dead load self-supporting, Poulson claimed that his system would cost only one-third as much as conventional beam and girder construction



New York Public Library

Like most techniques then in use, Poulson's method of fireproofing his floor system depended upon plaster to protect the steel. It consisted of applying precast plaster ribs to the underside of the steel ribs, laying inflated bags between them, and spreading plaster "spandrels" over the bags—thus completely encasing the underside of the steel. Building up pierced concrete ribs over the steel ribs as shown below then made it possible to pour a concrete floor and to use the space between it and the plaster sheath below as a plenum for warm air radiant heating





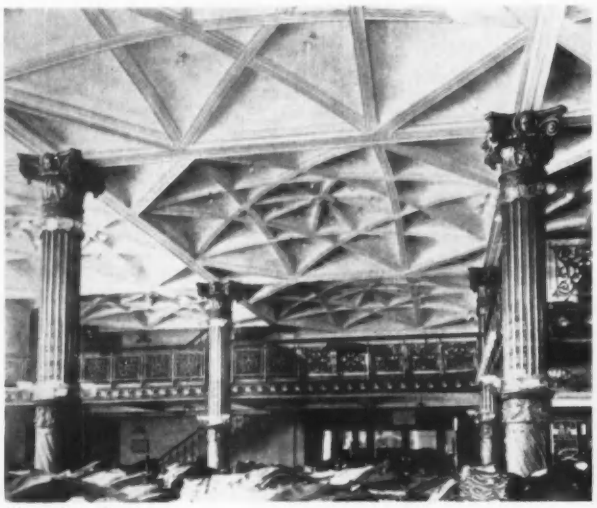
Architectural Record, April-June, 1892

Form Swallows Function

Poulson had spent much time in devising for use with his floor system various types of columns—some octagonal and some, using channels, swastika-shaped—which could be used for vertical pipe runs, and which would extend through several floors, diminishing in the amount of material used as they ascended. Unfortunately, however, the opportunity such continuous columns offered for visual expressiveness was largely lost upon the architects of the day.

For example, in Smith Gray & Company's store in Brooklyn, where the Hecla system was used to reconstruct the building after a disastrous fire, architect Peter J. Lauritzen expressed the columns as separate entities, with elaborate corinthian capitals, even though the steel columns themselves actually went up through several floors. A post and lintel expressionism was thus superimposed on the fluidity of the underlying structure.

Poulson himself, on the other hand, expressed his structural system quite beautifully in the drafting and exhibit rooms at the Hecla Iron Works. Here the post and lintel concept is subordinated to an almost plastic feeling of flow that more nearly reflects the steel arches and continuous vertical columns within. Since there was no lintel as such, Poulson abandoned the block-like abacus of the capital, sweeping



Blumenberg Press



New York Public Library

out the echinus to take the soffits of the simply-grooved ribs. Where ribs met, rosettes were applied to emphasize the points of intersection.

In this case, although the sheath of plaster was a fireproofing necessity, the engineer managed to express visually the structure it concealed. It is quite conceivable that, in the hands of a sensitive architect, the grooved soffits of the arched girders might have been swept right down to the floor via the columns—a gothic concept quite close to the structural facts. Victor Horta, for example, would have perfectly understood the possibilities in Poulson's system, and would no doubt have expressed it as the "Art Nouveau" with which it was contemporary.

The House that Neils Built

To his neighbors in Bay Ridge, Brooklyn, the most conspicuous evidence of Poulson's ingenuity was his own home, the famous "Copper House," which was a Brooklyn landmark from the time it was built in 1890 until it was razed in the early 1930's.

Although it was noted chiefly for being sheathed entirely in copper, it was also the earliest building in which Poulson used his octagonal (square bay) floor system, complete with arched ribs and integral warm air heating, and, according to one source [9], the first steel-framed residence ever built in the United States.

Externally, it was just another Victorian mansion, with towers, bays, projecting greenhouse and porte cochere. Even the copper sheathing was designed in keeping with the times. It featured four circular ornamental panels representing America, Europe, Asia and Africa (all copied from the Albert Memorial in London), and a copper frieze that extended entirely around the house between the first and second stories. On the exterior, only the light bamboo-like columns of the porch were in any way expressive of the metal used throughout.

The walls, though framed in steel, were nogged solid with 8-in. thick brickwork, and plastered directly on the inside without any air space. It appears that the external copper sheathing was effective enough to prevent all condensation, since the original wall paper was found to be in good condition at the time the house was razed.

When it was demolished, in spite of the rough treatment required to loose the plaster and the nogging, the frame stood four-square and true, and it was found that the steel was in such perfect condition that many of the bolts could be freely removed. This absence of rust must also be attributed to the copper sheathing.

Small wonder that the Superintendent of Buildings for the Borough of Brooklyn, who had watched the erection of the Copper House in the summer of 1890, proclaimed at the time of its demolition that it was structurally one of the most advanced buildings he had ever known.

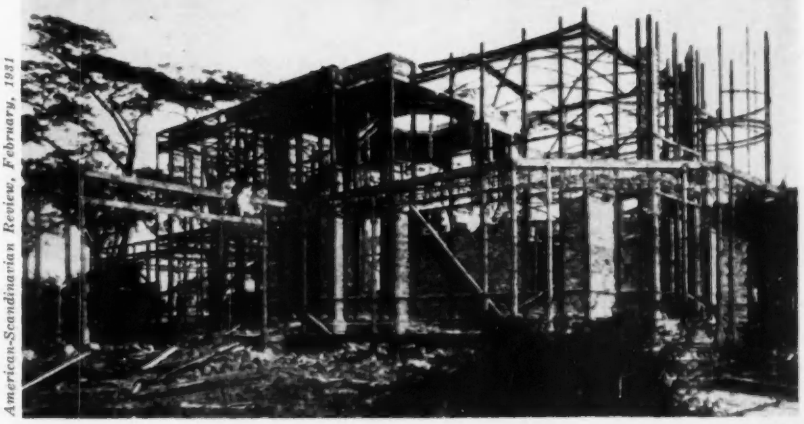
An architect viewing the ruins at the same time took a slightly different point of view. To him the bare steel frame with its spider web of convex bays enmeshed between vertical steel was more beautiful than the house itself had ever been.

But the most rapturous verdict of all came from the American Scandinavian magazine in 1911 [9]. "The house is emphatically an ironmaster's house," it said, "the very flower of his fancy's playing with the hard materials he had chosen to work with . . . such varied colors and exquisite shapes that all thought of hardness or coldness seems eliminated from the material."

Hexagonal Honeycomb for Grain

Even before he designed his novel floor system, Poulson had turned his engineering talent to solving, apparently, whatever construction problems struck his fancy. One such project was a scheme, advanced in 1877, for constructing fireproof grain elevators from a series of hexagonal cells, made up of steel-reinforced masonry carried on a system of groined arch castings which were supported in turn by hollow cast iron columns.

Although Poulson's floor system featured columns that extended through several floors, the architects of the day seem to have been too enamoured of the neo-classic post and lintelism then in vogue to have recognized the design opportunities offered by continuous columns. In the photo at far left, for example, the ornate corinthian columns give no hint of the fluid structure they hide. Poulson himself was more sensitive. In the Hecla drafting room, (left), he simplified the columns so that the steel ribs seem to flow through them instead of only resting on top



American-Scandinavian Review, February, 1931

Poulson's own home, the famed "Copper House" (shown above during razing, at right as it originally appeared), was the first in which he used his octagonal floor system and integral warm air heating, and reportedly the first steel-framed residence in this country. The drawing below shows an early scheme for a fireproof grain elevator made up of hexagonal masonry cells resting on ribbed vaults supported by hollow columns. Concave exterior walls (plan) closed the open sides of the half hexagons at the building perimeter and resisted outward thrust



Lewis Publishing Company

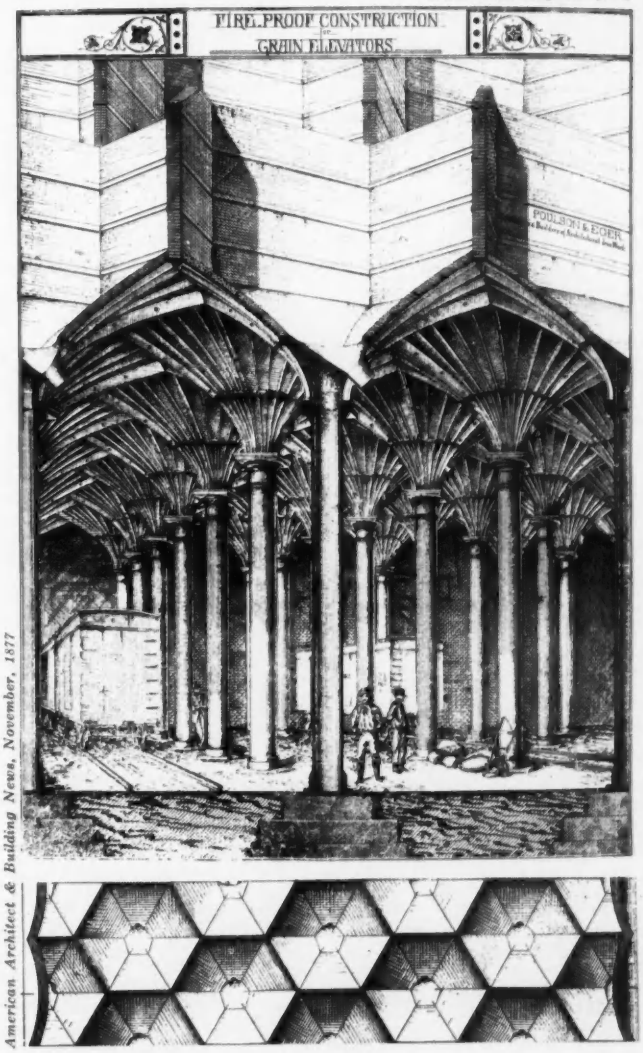
In describing this early proposal, Poulson boasted that the floor load was carried only once, thus avoiding the use of beams and girders; that the elevators would require no insurance; and that they would be completely rot- and vermin-proof.

The ribbed vaults forming the bottoms of the bins were to provide an inverted cone from which the grain could be discharged through a chute at the lowest point. Thus the supporting framework could be mass-produced from only three types of units: the ribbed lower section, the upper sections, and the chute section.

To maintain a rectangular shaped building, Poulson devised a system of concave exterior walls wherein the concavity of each wall segment closed the open side of a half hexagon and resisted outward thrust. With this arrangement, half-castings could be adapted to meet the side wall conditions.

Poulson stated that his hexagonal grain elevators "[would] not cost much if any more than a wooden building, and compared with the fireproof grain elevators in Brooklyn and Philadelphia, built with columns, girders, beams, iron floor and circular wrought iron bins, it would not cost nearly half so much." [6]

Unfortunately, the grain merchants of the day did not hear—or did not heed. There is no record of the scheme's having actually been built.



American Architect & Building News, November, 1877

HARNESSING THE COMPUTER FOR SPECIAL STRUCTURES

by *KURT EISEMANN*,
Research Mathematician, International Business Machines Corporation

SAUL NAMYET,
Assistant Professor of Structural Engineering, Massachusetts Institute of Technology

LIN WOO,
Engineer, International Business Machines Corporation

Although computers have in the past decade proved that they can perform such diverse tasks as "flying" unbuilt aircraft and making out payrolls, they have yet to carve a niche for themselves in the building field. The reason has been economic. Engineers are quite willing to turn over to a machine the tedious calculations necessary for an accurate analysis of complicated structures, but they have rarely been able to do so. They have found instead that unless a project involves a vast number of repetitive calculations or a firm can count on designing many similar structures, the time and manpower saved by using a computer may not justify the cost of programming.

One answer to this dilemma is now being sought under the auspices of the Massachusetts Institute of Technology and the International Business Machines Corporation. The object of the joint project, as outlined here, is to devise a "standard" program for analyzing three-dimensional framed structures ranging from multi-story rigid frames to domes and other types of space frames. Such a program would speed up the inevitable trial and error process of design, making it possible to handle very large rigid structures in a single computer run; and it would permit much more exact and sophisticated analysis of structures that, because of the time involved, would otherwise have to be designed by approximation.

More important, the development of a standard program would make it economical to use computers for the analysis of even small "one of a kind" structures. Programming time would be limited to the day or so it would take an experienced engineer to acquaint himself with the program requirements and to transfer the necessary information to "input sheets" described in the general program write-up.

To demand accurate three-dimensional analyses of rigidly-framed structures would exact from the engineer an intolerable toll of tedious labor and precious time. It has therefore become the established practice to treat loads and stresses as if they were carried by two-dimensional sections of the structure. The amount of work necessary for solution is thus reduced to feasible proportions, but the simplifying assumption introduces a definite source of errors. The resulting discrepancies between the calculated and the actual behavior of a structure reflect the concessions enforced by limitations of available manpower and human mental fatigue.

No comparable limitations exist in regard to an electronic computer. It can be harnessed to perform, within a reasonable amount of time and without fatigue, the complete analysis of a structure, taking into account all three dimensions. We have thus reached the point where analyses can be carried out not only with greater speed but also with greater accuracy than has ever been practicable in the past.

Accordingly, the development of a technique for analyzing three-dimensional framed structures by electronic computer has been undertaken by the Massachusetts Institute of Technology and the International Business Machines Corporation.

The joint project aims to serve a dual purpose: to abolish the tedium of manual calculation and at the same time to achieve more accurate structural analyses with rapidity.

The value of applying a computer in this area is evident on examination of the traditional methods of analysis, which were established through a process of evolution. In this process, desirable objectives could be realized only within the confinements of human limitations. The result was compromise between objectives and available means by which to achieve them.

A decisive factor in effective design is time. Even under the simplifying assumption of two-dimensionality, careful analysis of a multi-story building frame may take an experienced engineer several weeks to perform. By contrast, the same amount of work can be executed by machine within a matter of minutes.

Another crucial factor is that of size. The number of man-months required for an analysis rises steeply with increasing size of a structure. By contrast, the vast storage capacity of computers, which can store, identify and retrieve millions of numbers in various types of "mem-

ory," should permit the reduction of man-years of effort to a comparable number of machine-hours.

The current MIT-IBM project aims at applying the speed and versatility of computers to the complete and accurate three-dimensional analysis of arbitrary framed structures composed of prismatic members. Among the numerous factors that will be taken into account are arbitrary joint configuration with arbitrary orientation of members; arbitrary set of loads; rigid, pinned, and flexible joints; arbitrary types of oblique reactions; settlement of foundations; and temperature effects.

The analysis will take into account not only transverse, but axial and shear stresses and deformation as well. Applications will include such diverse structures as multi-story building frames; towers; truss-bridges; support structures for industrial equipment, for storage tanks, for radar antennae, and for radio telescopes; masts and cranes; domes; and space frameworks in general.

An appropriate master computer program—the set of instructions to the machine which govern computations and control—is already in the advanced planning stage. As input it will require no more than the geometrical and elastic data defining the joints, members, and supports of the structure, together with external loads. The program will then proceed to calculate all joint displacements, external reactions, and the internal forces and moments induced at the extremities of each member. These data permit easy subsequent stress and deformation analysis for any individual member.

The automatic execution of a program involves not only the actual numerical computations, but also a complex system of logical control. This supplies full identification for each number, rearranges data within internal storage as needed, performs checks on consistency and accuracy, and decides at each step on the required type of computation.

As a result, for the complete analysis of a large structure, an electronic computer will be required to execute hundreds of millions of instructions, mostly arranged in repetitive "loops." Techniques for achieving a minimum of machine time for large size structures thus assume paramount importance. Numerous such techniques, designed to combine feasibility with optimality, are currently under development and will be incorporated into a single, comprehensive computer program. It is expected that structures with hundreds of joints and well in excess of a thousand members can thereby be analyzed with unprecedented accuracy and speed.

The computer for which this program is planned is the IBM 704, such as the one installed at the MIT Computation Laboratory. It has a high-speed core "memory" of 32,768 ten-digit numbers plus unlimited storage capacity on electromagnetic tapes. Its speed of execution is about 2½ million operating steps ("instructions") per minute. Since installations of this model exist in most major cities and Data Centers rent machine-time by the hour, a program, once written, will become accessible to engineers in every part of the nation.

The advent of the electronic computer has already revolutionized many organized areas of activity of human society. Aircraft are designed and "flown" on computers. Their behavior is studied under wide ranges of operating conditions, before even a test model is built. Huge industries alter their traditional operating practices as a result of new insights revealed through extensive studies on computers. And wherever immense volumes of arithmetical calculations, logical decisions, or clerical operations are called for, computers have begun to transform the hitherto impossible into an impressive array of accomplished facts.

This versatile tool is slated, in time, to exert a profound influence upon architectural practice as well. No longer need the architect graft non-organic modifications on his original artistic concepts so as to take into account computed structural requirements not fully anticipated. Instead, he will be able to obtain a rapid analysis of a preliminary general sketch and utilize the results in perfecting the functional details of a pleasing and effective design. The computer thus puts at his disposal sufficient information on which to base judicious decisions concerning such fundamental parameters as height of stories, interior plan dimensions, and column spacing and arrangement. More detailed design can then be followed by a more detailed analysis.

Even at this stage, the architect retains full freedom of action. If he decides on a change of design, either to remove objectionable structural features or to broaden an artistic idea, he need no longer fear the consequent delay in the execution of his project. Re-analysis of a revised design literally can be done overnight. The architect thus is freed from subservience to the demands of structural details. Instead, he can turn the tables and, as the master, subordinate the computed structural requirements so as to blend harmoniously with architectural expression and form.

The impact of the computer on architectural as well as engineering practice is due to be felt in yet another direction. It now has become feasible to perform, within a very short period, not one but an entire battery of analyses for alternate designs under various loading conditions, providing valuable data for comparative study and evaluation.

Informed choices can then be made between competing forms as well as competing materials. Rapidly obtainable data on the required dimensions and arrangement of structural members can assist in a determination of the optimal structural form. This, in turn, will facilitate the architect's decision on the most appropriate architectural form.

Similarly, it is possible to compare the size, composition and cost factors of different materials, such as steel, reinforced concrete, aluminum, or prestressed concrete. It will thus be an easy matter to choose, among a set of proposed alternatives, the most desirable and economical design.

The computer program currently under development is expected to provide the engineering profession with a potent tool of wide utility. Yet it will become only one phase in the development of constantly-improving engineering. The day is not far off when not only the tiresome arithmetic of analyses, but even the judicious and economical design of entire engineering structures, can be safely and dependably entrusted to man's new friend—the electronic computer.

SELECTING SERVICE FIXTURES FOR SCHOOL LABS

. . . Some tips on evaluating fittings for educational laboratory furniture

by CARL SPATT, *Chief Engineer, Lab-Flo Division, T & S Brass and Bronze Works, Inc.*

There are practically no demonstrations or experiments in the average school laboratory that do not require a supply of water or gases, and each such element requires some type of fixture to dispense it—easily, safely, and with long term usage in mind. Since school laboratories represent a substantial expenditure, it follows that high quality materials and equipment should be used throughout. This is equally true of the service fixtures. Unless they are designed to withstand laboratory usage, even the best equipment will not function as it should—just as an automobile will perform no better than its engine.

Faucets and Valves: Construction
The amount of metal used in a faucet or valve is one good indication of quality since material represents the highest item of cost to a manufacturer, and hence the area in which the greatest savings (and profit) can be realized. A heavy valve or faucet usually reflects quality not only in increased wall thickness, but also in heavier working parts such as spindles. The larger the diameter of the threads of the spindles, the longer they will last, and since the faucet body will have deeper threads to receive the "oversize" spindles, it too will last longer.

One alloy that has proven quite successful for faucet and valve bodies is a bronze that consists of 85 per cent copper plus equal parts of tin, zinc and lead. This particular alloy is usually cast, but some valves are produced as forgings from a brass made up of 65 per cent copper and 35 per cent zinc. This higher percentage of zinc makes for a lower quality product since the zinc may dissolve in water passing through the forging, but satisfactory service can be obtained if forged items have sufficient wall thickness.

Indeed, forgings have several advantages over castings: the absence of tiny "sand" holes which sometimes result in leaking castings; the greater density of the forging wall which results in higher strength; and a smoother external surface which leads to a better finish. Three examples of products which can be satisfactorily produced from forgings are the tabletop turrets or pedestals in which gas cocks are mounted; the gas cocks themselves; and handles of faucets and valves.

All joints of faucets should be constructed so that internal back pressure will not cause leaks at the joints. For example, placing a nonsplash aerator or aspirator on the tip of a faucet nozzle will restrict the flow of water to such an extent that the interior of the faucet will be under higher pressure than normal. This pressure manifests itself in leaks at poorly protected openings.

Faucets and Valves: Types
The part of a faucet or valve at which the flow is controlled is known as the seat. Most faucets have one of three types: a seat which is an integral part of the body; a removable seat; or a removable barrel insert style.

The first attempt to repair a leaking faucet is made by replacing the seat washer. If this does not prove satisfactory, the seat itself must be replaced or repaired. An integral seat cannot be replaced but must be repaired by re-machining the seat with a hand tool. The removable seat, which is made of brass, stainless steel or monel, is replaced by merely unscrewing it from the faucet interior see Figure 1. The removable barrel insert is also replaceable and has the advantage that the spindle does not "work" on the faucet body.

On the other hand, the removable seat is sometimes preferable because corrosion will usually localize at the seat, replacement of which will renew the faucet. Sometimes, in the case of the barrel insert, corrosion will take place between the barrel and the faucet body, ruining the body and defeating the purpose of the removable barrel.

Steam valves come with two types of seats. One has a removable seat washer; the other has a removable stainless steel seat and a floating needle cone. Both types perform satisfactorily, but the needle style affords better control over the volume of steam.

Faucets and Valves: Finishes
The standard finish for exposed laboratory faucets is chromium plate over nickel plate over a highly polished base. It is pleasing in appearance and easy to keep clean, but has poor resistance to the chemical attack of fumes. Epoxy-coated fixtures are being used in increasing quantities to resist exterior corrosion, but no standard specifications have been set for the epoxies because they have not been in use long enough to yield sufficient test data. Stainless steel service fixtures are also available, and will undoubtedly find increasing application in fume hoods. They are particularly useful in radio-isotope fume hoods which must be decontaminated with strong detergents and, sometimes, acid solutions that would rapidly cause chrome plated fixtures to become dull and pitted.

Electrical Pedestal Boxes
Since an electric box has no working parts and is not subject to internal corrosion as is a faucet, the most economical satisfactory material can be used for its construction. Tabletop-mounted electric pedestal boxes are now usually furnished with a cast iron body, finished in either painted enamel or chrome plate. However cast aluminum boxes are becoming more popular and will probably supplant cast iron eventually. They can be chromium plated to protect against corrosion and minimize oxidation of the aluminum surface. Cast bronze electric pedestal boxes, chromium plated, are also available and are

the most corrosion-resistant of the types so far mentioned. Although they are the most expensive of the three, they will outlast the others both in appearance and in utility.

Distilled Water Service

The chief concern in selecting faucets for dispensing distilled water is to avoid contamination of the water. It has been traditional to use tin-lined brass or bronze faucets for this purpose, but aluminum faucets are now available also. It has recently been shown[1] that the pickup of aluminum by the distilled water in aluminum systems is less than that of copper in tin-lined copper alloy systems. It should also be remembered that in tin-lined faucets in which the moving parts are also tin-coated, some rubbing together of parts will occur, causing the coating to wear and eventually exposing the bronze.

Distilled water faucets are usually self-closing, and come in tabletop and wall mounted models. The pipes supplying them must also be of aluminum or other suitable material to avoid contamination.

Multi-Function Fixtures

Budgetary pressures and educational reasons have started a trend toward multi-purpose science rooms on the very logical assumption that different sciences can use the same laboratories. This has sparked the development of multi-purpose service fittings which not only save tabletop space but are usually lower in cost than the separate fittings otherwise required.

For example, a physics laboratory table might have gas and electric service only, while the services on a chemistry table would include gas and electricity plus cold water. Since the vertical support rods on a physics table differ from those on a chemistry table, a combination table would, in effect, be a chemistry table with provision for switching support rods.

In such a case, a combination gas and water fixture (Figure 2) might be installed, and there are also combination electric and gas pedestals which are useful in either chemistry or physics rooms, or in multi-purpose labs. Other dual purpose turrets or pedestals (Figure 3) allow the use of two different services from the same base fixture, and can also be used as a remote fixture in a fume hood, thus saving the tabletop space formerly occupied by, for example, the gas or water base.

Mixing Faucets and Water Supply

Steam and hot water service are rare in student laboratories, but since steam may be in the building for heating purposes, the use of combination steam and cold water mixing faucets (Figure 4), fed by a branch line from the steam system, might be considered. These faucets will deliver cold water only, or steam only, and when used as a mixing faucet will produce warm water for washing hands and equipment. As a steam faucet, they can be used for steam baths and find extensive use in organic chemistry laboratories.

Floor or wall mounted foot pedal valves, delivering either cold, hot or mixed water are also finding more use in laboratories. The water is piped from the pedal valve to gooseneck or nozzle outlets. They allow the student the use of both hands, and are used to fill vessels, wash hands, rinse equipment, and so on.

Another variation is the concept of a "flexible water supply" which brings water to the object rather than bulky objects to a water source. Flexible metal hoses with self-closing valves on the outlet ends serve this purpose. The valve may have a spray head for use in rinsing or a plain open end for filling. For example, in dark rooms, large jars stored on shelves can be filled in place. Or a hose and spray (Figure 5) can be used to rinse photographic trays.

The flexible hoses are attached to mixing style workboard faucets which allow either cold or tempered water to be used. When used as a filling device, the hose and valve are attached to a cold water line, and the hose is hung in a convenient position when not in use. Other uses of a hose and valve include filling water baths, aquariums, etc.; plant spraying; and immediate washing down of equipment, students and demonstrator for removal of corrosive substances in emergencies. *Lab-Flo Div., T & S Brass and Bronze Works, Inc., 128 Magnolia Ave., Westbury, L. I., N. Y.*

more products on page 252

[1]W. W. Binger and C. M. Marstiller, *Corrosion*, Vol. 13, No. 9, pages 591t-596t (1957) September

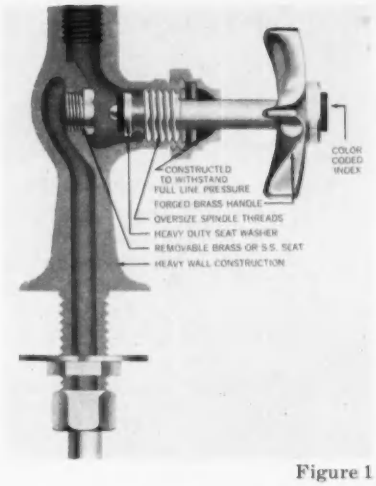


Figure 1



Figure 2



Figure 3

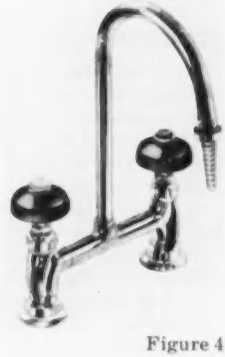
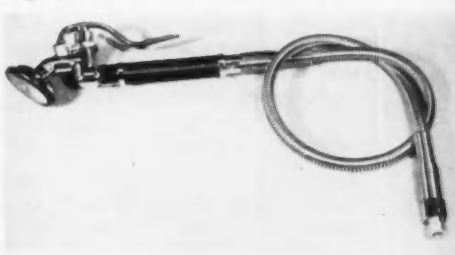


Figure 4

Figure 5



Building Products Literature Competition

Results of the eleventh annual Building Products Literature Competition have been announced by its co-sponsors, the American Institute of Architects and the Producer's Council, Inc. The competition, which was instituted to encourage the upgrading of building industry literature, has evidently done so. This year, the architects on the jury agreed that the quality of the entries had risen to a point where the competition, which in effect serves as a check, need be held only every other year. The award-winners (listed below) were selected by Harry B. Tour, F.A.I.A.; Edward G. Conrad, A.I.A.; George Bain Cummings, F.A.I.A.; James B. Newman, A.I.A.; and H. Griffith Edwards, A.I.A.

CLASS I

Literature concerned primarily with basic technical information including material offering general information on design, specifications, methods of application, standards of workmanship, maintenance, and the like, with regard to a class or type of product

Certificate of Exceptional Merit

DOUGLAS FIR USE BOOK, West Coast Lumbermen's Assn.; Agency: Cole & Weber, Inc.

Certificate of Merit

SOUND ABSORPTION COEFFICIENTS, Acoustical Materials Assn.; ARCHITECTURAL METALS BY ANACONDA, American Brass Company; METAL STAIRS, National Assn. of Architectural Metal Manufacturers; TECHNICAL NOTES, Structural Clay Products Institute; GLAZING MANUAL, Flat Glass Jobbers Assn.; FACING TILE HANDBOOK, Facing Tile Institute; AMERICAN STANDARD SPECIFICATIONS, Tile Council of America, Agency: Fuller & Smith & Ross, Inc.

Honorable Mention

ULTIMATE COST OF BUILDING WALLS, Structural Clay Products Institute; METAL CURTAIN WALL PANEL, National Assn. of Architectural Metal Manufacturers; FUNDAMENTALS OF BUILDING INSULATION, Insulation Board Institute; TECHNICAL BULLETINS, Metal Lath Manufacturers Assn.; SPECIFICATIONS FOR METAL LATHING AND FURRING, Metal Lath Manufacturers Assn.; MANUAL FOR HOUSE FRAMING, National Lumber Manufacturers Assn.; ENGINEERING IN WOOD, Timber Structures, Inc., Agency: Arthur E. Smith, Advertising; FIR PLYWOOD BOX BEAM HANDBOOK, Douglas Fir Plywood Assn.; STRUCTURAL CLAY FACING TILE, Structural Clay Products Institute; WOOD WINDOW DETAILS, Architectural Woodwork Institute

CLASS II

Literature offering technical information concerning the building product or products of a single manufacturer

Certificate of Exceptional Merit

ARMSTRONG FLOORS—TECHNICAL DATA, Armstrong Cork Company; ARCHITECTURAL SPECIFICATIONS MANUAL, Pratt & Lambert, Inc.

Certificate of Merit

SOUND CONDITIONING, The Celotex Corporation; ACOUSTICAL CEILINGS, Armstrong Cork Company; CATALOG NUMBER 8, Julius Blum & Company, Agency: Seery & Ward; LUPTON ALUMINUM CURTAIN WALL, Michael Flynn Manufacturing Company, Agency: Erwin Wasey, Ruthrauff & Ryan; HOLLOW METAL DOOR UNITS, Fenestra, Inc., Agency: Fuller & Smith & Ross, Inc.; BOOK I—POWER SYSTEMS APPARATUS, BOOK II—UTILIZATION APPARATUS, BOOK III—APPLICATION GUIDE, General Electric Company; CERAMIC TILE PRODUCTS MANUAL, U. S. Ceramic Tile Company, Agency: Griswold-Eshleman Company; DESIGN KIT, Arketex Ceramic Corp., Agency: Keller-Crescent Company; WATERLOO AIR DIFFUSING EQUIPMENT, Waterloo Register Company, Inc., Agency: Michel-Cather; TOILET COMPARTMENTS, Sanymetal Products Company, Inc., Agency: Clark & Bobertz, Inc.; TRU-MESH METAL LATH & ACCESSORIES, Truscon Division, Republic Steel Corporation; PLUMBING FIXTURES & FITTINGS, Plumbing & Heating Div., American-Standard, Agency: Batten, Barton, Durstine & Osborn, Inc.; BUILT-UP ROOFING, The Ruberoid Company, Agency: Fuller & Smith & Ross, Inc.

Honorable Mention

GLORIFYING THE AMERICAN BATHROOM, The Philip Carey Mfg. Company, Agency: Farson, Huff & Northlich, Inc.; ALUMINUM & STEEL CURTAIN WALLS and ALUMINUM WINDOWS & SCREENS, Ceco Steel Products Corp., Agency: Charles O. Puffer Co.; CURTAIN WALL PANELS FACED WITH CERAMIC TILE, Ceramic Tile Panels, Inc.; CURTAIN WALLS, General Bronze Corp., Agency: Wildrick & Miller; ENTRANCES—STORE FRONTS—CURTAIN WALLS, American Art Metals Company; BASIC TYPES FOR COMMERCIAL INTERIORS and BASIC TYPES FOR RESIDENTIAL INTERIORS, Armstrong Cork Company; THE ECONOMICS OF THERMAL ROOF DESIGN, F. E. Schundler & Company, Inc., Agency: Kenneth B. Butler & Assoc.; RECESSED ARCHITECTURAL LIGHTING, Lightolier, Agency: Alfred Auerbach Associates, Inc.; STAINLESS STEELS FOR ARCHITECTURE, Armco Steel Corporation; TILE WORKBOOK FOR ARCHITECTS, The Mosaic Tile Company, Agency: Farson, Huff & Northlich, Inc.; CERAMIC TILE, U. S. Ceramic Tile Company (The Sparta Ceramic Company), Agency: Griswold-Eshleman Company; METAL WINDOWS, The Flour City Ornamental Iron Works, Agency: Ray C. Jenkins Advertising Agency; ALUMINUM WINDOWS AND STEEL WINDOWS, Fenestra, Inc., Agency: Fuller & Smith & Ross, Inc.

CLASS III

Literature of a primarily promotional nature, supplemental to CLASSES I and II

Certificate of Exceptional Merit

LAMINATED PLASTIC SPECIFICATIONS, Formica Corporation, Agency: Perry-Brown, Inc.

Certificate of Merit

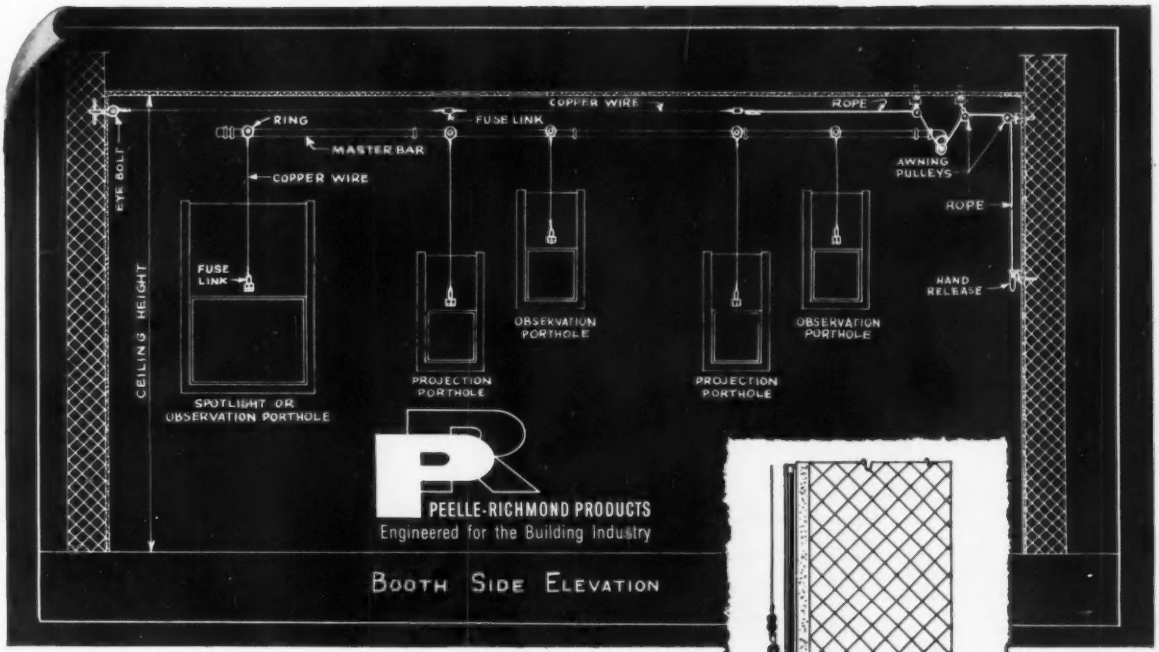
THE FACING WITH A FUTURE, Mo-Sai Associates, Inc., Agency: David W. Evans & Assoc.; CURTAIN WALL PANELS & FACINGS, General Portland Cement Company, Agency: Harris & Wilson, Inc.; THE SECOND NEW IDEA IN ENTRANCES, Kawneer Co., Agency: Fuller & Smith & Ross, Inc.; SCHOOL EQUIPMENT, Brunswick-Balke-Collender Co.; Agency: Garfield-Linn Company; THIS KEY WORKS, Russell & Erwin Div., American Hardware Corporation, Agency: Noyes & Company, Inc.; MEMBRANE FIREPROOFING, U. S. Gypsum Company, Agency: Fulton Morrissey Company; GARDEN REDWOOD, California Redwood Association; MASONITE CONTEMPORARY STUDIES, Masonite Corporation, Agency: The Buchen Company; NEW INTERIORS WITH LARGE SIZE CERAMIC TILE, American-Olean Tile Company, Agency: Arndt, Preston, Chapin, Lamb & Keen; BRICK & TILE, Structural Clay Products Institute

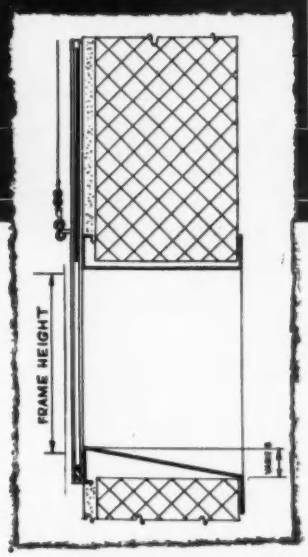
continued on page 288

PEELLE-RICHMOND

PACKAGE FIRE SHUTTER ASSEMBLIES

for School and Church Projection Booths





SECTION THROUGH TYPICAL PORTHOLE

ARCHITECTS specify Peelle-Richmond Package Fire Shutters to reduce specification and design time and to assure owner of quality installations.

CONTRACTORS like them because all components are on hand when projection booth installation starts.

OWNERS like them because of the reassurance of getting a quality product specially designed for a specific use.

SPECIFICATIONS:

Furnish package fire shutter assemblies as manufactured by The Peelle Co. or The Richmond Fireproof Door Co. in the projection room. Provide #14 gauge 4-sided hollow metal frames (with the bottoms splayed) equipped with guides and #14 gauge shutters, all in prime coat finish. All shutters shall be controlled by a master-bar having manual and automatic release. Each shutter shall have its individual fusible link and the control mechanism shall be equipped with fusible link over each projection machine and each spotlight.

A manual release shall be provided at each exit door to the projection room. Each port shall have a fixed glass panel with removable moulding. Each glass light shall be set in rubber glazing channel. Provide polish plate glass for observation ports, ¼" optical glass for projection and spotlight ports.

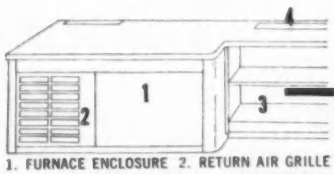
Write for further information

THE PEELLE COMPANY — 47 STEWART AVENUE, BROOKLYN 37, N.Y.
THE RICHMOND FIREPROOF DOOR CO. — N.W. "F" ST., RICHMOND, INDIANA



a study in economy

The Norman economy story begins right with the installation of the individual gas-fired **Norman Schoolroom Heating and Ventilating Systems.** There's no need for expensive boiler rooms, stacks, pipe tunnels, boilers, control panels, circulating pumps or expansion tanks. Each Norman forced warm-air system adds another chapter in economy . . . there's no need to re-vamp a central system when the school grows! Room by room Norman Systems automatically provide heat rapidly and supply the proper blend of outdoor air and recirculated room air for cooling and ventilation. The low operating and maintenance costs make the Norman economy story one without ending.



1. FURNACE ENCLOSURE 2. RETURN AIR GRILLE
3. UTIL-I-DUCT® BOOKSHELF 4. AIR DIFFUSER

Write Today for New 1960 Comprehensive Manual
See folder in 1960 Sweets Arch. File 31h/No

Norman®

PRODUCTS CO. • 1152 Chesapeake Ave., Columbus 12, Ohio

RESIDENTIAL WARM AIR HEATING AND AIR CONDITIONING: 7—Summer Air Conditioning

by S. Konzo, Professor of Mechanical Engineering, University of Illinois; E. J. Brown, Research Associate in Mechanical Engineering

Air Distribution for Heating and Cooling

The air-flow rate for cooling is, in general, greater than that required for heating. The ducts required for cooling therefore are necessarily larger than those for heating. If a system is to be used for both heating and cooling, or if the addition of cooling at a later date is contemplated, the duct system should be designed for cooling. A procedure for designing a year-around air distribution system is included in Manual No. 9 of the National Warm Air Heating and Air Conditioning Association.

A cooling unit should not only maintain a reduced air temperature indoors, as compared with that of outdoors, but should maintain a satisfactory level of indoor relative humidity. The conventional cooling unit accomplishes these ends by the removal of *sensible heat* (as indicated by a reduction in air temperature), and the removal of *latent heat* (as indicated by a reduction in moisture content).

Summer Heat Gains

The heat gains from *external sources* include: (a) transmission heat gain, (b) solar gains, and (c) infiltration heat gains. The transmission heat gains through walls, windows and ceiling surfaces result from the temperature difference between indoor air and outdoor air, and are largely dependent upon the construction of the barrier between indoor air and outdoor air. Solar gains result from sunlight passing through unshaded windows, and from sunlight striking a wall or ceiling surface and increasing the surface temperature. Infiltration gains are caused by the introduction of warm outdoor air through cracks around doors and windows into the conditioned space. Heat gains from *internal sources* arise from lighting fixtures, domestic appliances, cooking and bathing operations and from occupants.

Heat Gains as Affected by Construction

The cost of the original cooling equipment, as well as operating cost, may be minimized by the use of house insulation and by the proper selection of exterior colors of walls and roofs and by shading devices. Adequate insulation should be provided in new construction, not only in the ceilings, but also in the sidewalls. Full-thickness insulation is recommended for sidewalls and more than 4 in. for ceilings. In existing construction, insulation should be added in ceiling and sidewalls if construction permits. All sidewall and ceiling insulation should be provided with a vapor barrier on the *room side* of the wall or ceiling in order to reduce the migration of water vapor from outdoor air into the house. The room side is specified primarily for the more serious condensation problem in winter.

Light-colored walls and roof surfaces serve to reflect sunlight and thereby permit smaller heat gains than do dark colored surfaces. Shading devices, such as trees, awnings, exterior Venetian blinds, overhanging roofs are effective not only in reducing the solar gain through windows exposed to sun, but also in preventing an increase in wall temperatures. For new construction, it is possible to consider the benefits to be gained by proper orientation of the house. For example, large windows which face north will be least affected by sunlight. A window on the south wall can be readily protected by a roof overhang from solar heat gain in summertime. Windows located on east and west walls cannot be protected by roof overhangs because the sun is relatively low in the sky during morning and evening hours when it is shining on east and west walls. Hence, special care must be taken to minimize the solar load on these unfavorable exposures. This can be done by omitting windows, by decreasing their size, or by providing shading devices such as awnings, exterior Venetian blinds, shutters, vertical louvers, trellises, trees, or, window screens that are specially designed with louvered strips to exclude the sun.

Weatherstripping around doors and windows will serve to reduce the infiltration of warm outdoor air into the conditioned space. Infiltration of outdoor air is not considered as a major influence in heat gain during the summer because wind velocities are low. Furthermore, some amount of infiltration is considered desirable in order to minimize odors that arise indoors.

Heat Gain Calculations

Heat gain calculations should be made with a reasonable degree of precision. An undersized cooling unit may not provide sufficient cooling capacity to maintain satisfactory indoor air temperatures on a hot day. On the other hand, this does not imply that a greatly oversized unit should be selected. Research findings have demonstrated that a greatly oversized unit may be able to maintain room-air temperatures at a satisfactory level by on-and-off cycling of the compressor, but the resulting wide fluctuations in indoor relative humidity have proven most annoying to the occupants. In general, a cooling unit that can be operated almost continuously during average hot weather is preferred to a greatly oversized unit.

One of the many accepted procedures for determining heat gain of a building is presented in Manual No. 11 of the National Warm Air Heating and Air Conditioning Association. In addition, the Manual gives methods for the air-distribution system as well as a method for selection of equipment.

Cooling Equipment

The most common air-cooling unit (shown schematically in Fig. 9) consists of the following parts:

a) A *compressor*, in which a refrigerant is pumped to a high pressure and a high

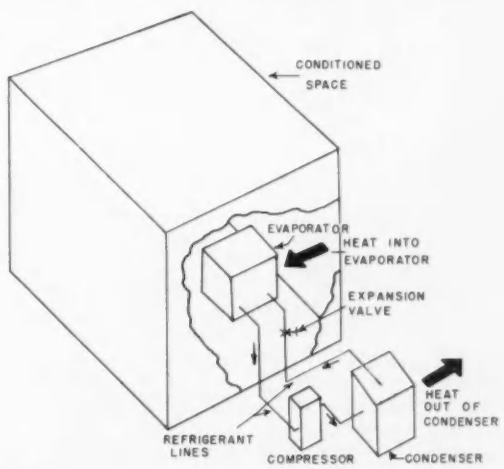
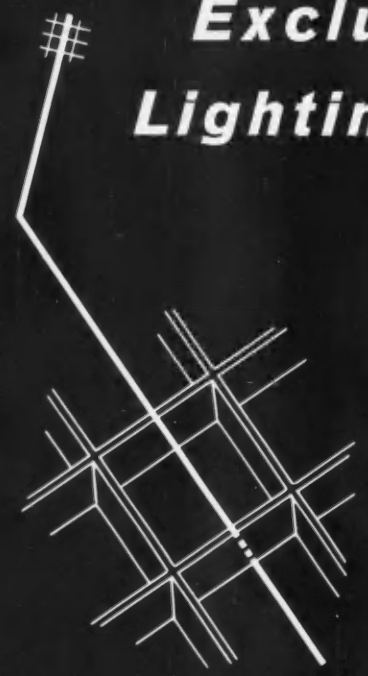


Figure 9

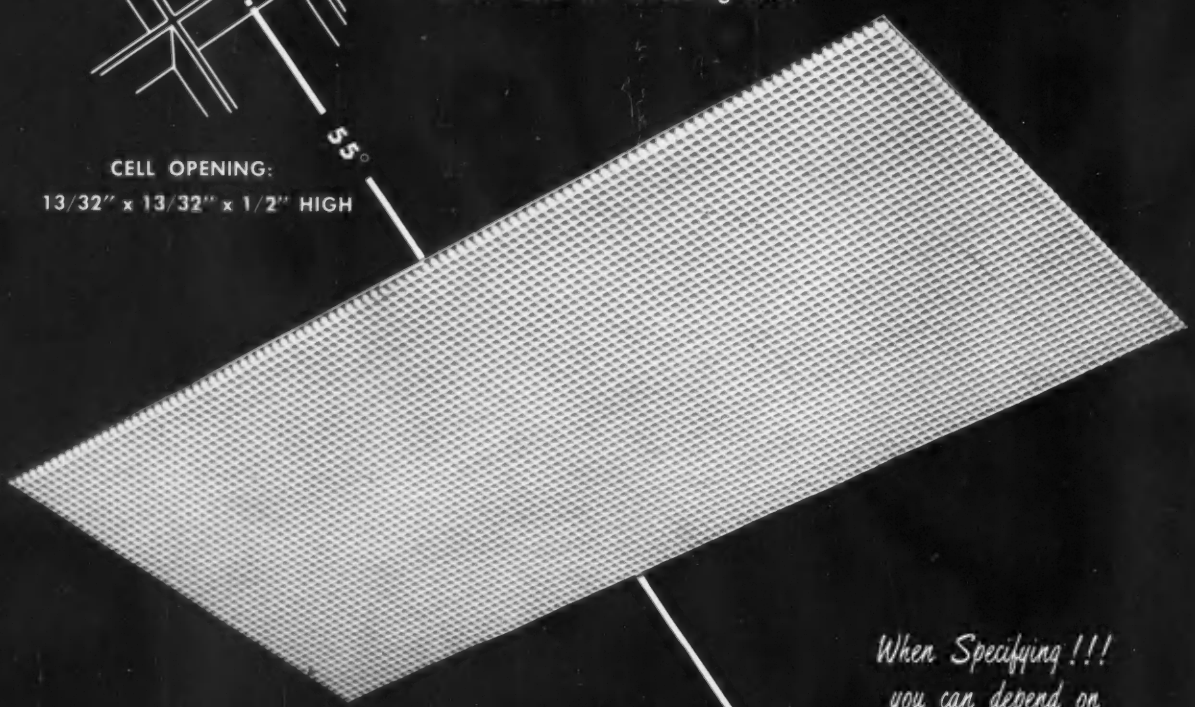
NEW!

Exclusive 55° Angle Lighting Louver Diffuser

Developed to meet todays and tomorrows higher lighting levels—For use in Individual fixtures, Modular or Large Area illumination with unexcelled diffusion—Developed to meet and exceeds IES-NEMA SPI joint specifications for stabilized styrene—True translucent white and a wide range of colors—Light weight for easy handling, installation and maintenance—Dimensionally stable—Low cost—Available in 45° and 42° shielding also.



CELL OPENING:
13/32" x 13/32" x 1/2" HIGH



When Specifying!!! you can depend on American Louvers...

Light shielding louvers is our *one and only most important product*, developed, designed and manufactured by American louver, consultants to the lighting industry since 1939, assuring you the finest in Plastic Louvers.

For pertinent facts on American louvers, write for bulletin 33am and new 3 color catalog—Just off the press.

american louver company

4240 N. SAYRE AVENUE • CHICAGO 34, ILLINOIS

RESIDENTIAL WARM AIR HEATING AND AIR CONDITIONING: 8—Summer Air Conditioning

by S. Konzo, Professor of Mechanical Engineering, University of Illinois; E. J. Brown, Research Associate in Mechanical Engineering

temperature by means of an electric motor drive.

b) The *refrigerant*.

c) A *condenser* which serves to cool the hot gas that comes from the compressor and changes it to a liquid, but still at high pressure. The condenser can be of *water-cooled* design, in which cool water is pumped through pipes inside of the condenser. Because of the cost of water for this purpose, water-saving devices known as *cooling towers* have been commonly used. In this case, the water that has circulated through the condenser is cooled in the cooling tower and delivered back to the condenser. In other words, the water is used over again except for that which is lost through evaporation. In smaller residential applications, *air-cooled* condensers are most commonly used. A large fan delivers relatively large quantities of air directly from outdoors over the condenser coils where heat is absorbed, and then returns the heated air to the outdoors. In many respects the condenser is the most important part of the cooling unit, since its location will determine the relative complexity of the installation as well as the operating performance.

d) The *expansion valve* or the capillary tube, which is a constriction in the line that reduces the pressure of the liquid from the high pressure existing at the condenser to the low pressure existing downstream of the expansion valve.

e) The *evaporator* which contains the gaseous refrigerant for cooling and drying room air. The moisture which is condensed out of the circulating air is discarded to a drain.

Self-contained units are those which house the compressor, condenser, and evaporator in the same cabinet, as indicated in Fig. 10, which shows a self-contained unit located outside of the house. The cabinet also contains a fan which circulates air through the duct system to the conditioned space. The self-contained unit projects through the wall and may be located in the basement, crawl space, or attic. The unit shown in Fig. 11 is separately installed from the heating system, although it could be connected to an existing forced-air duct system.

The *split unit*, as indicated in Fig. 11, provides for two locations of the component parts: the compressor and condenser are located in the cabinet outside of the house, while the evaporator is located inside of the house, usually in the plenum chamber of an existing forced-air furnace. The refrigerant is piped from the remotely located condenser to the evaporator through well-insulated piping. The furnace blower is utilized for circulating the conditioned air through the duct system.

"Packaged" heating-cooling units for houses are now generally available on the market. The compressor and evaporator are usually included in the "package," and an air-cooled condenser is provided to be located outdoors. A seasonally operated damper directs the air through the cooling coils or the heat exchanger, as required. Heating-cooling units are available in the same types that were described earlier in the discussion of furnaces—low-boy, high-boy, counter-flow, and horizontal.

In the South and other areas where power cost is favorable, the relatively new *heat-pump* may be a practical solution. The heat-pump is simply an air-conditioner so arranged that the flow may be reversed in the winter. During the heating season the warm air from the condenser is used to heat the house, and the cold air from the evaporator is discharged outdoors. Heat-pumps are now available in "packaged" form in sizes suitable for residential use. Many of them include auxiliary electric heating coils for use in the coldest weather. Heat-pumps occupy relatively little space and eliminate the need for a chimney and for fuel storage, but at present both installation and operational costs are generally higher than for other types of heating and cooling equipment.

Location of Supply Outlets for Cooling

The locations of supply outlets were discussed in the section on Forced Warm Air Heating Systems. For cooling only, either

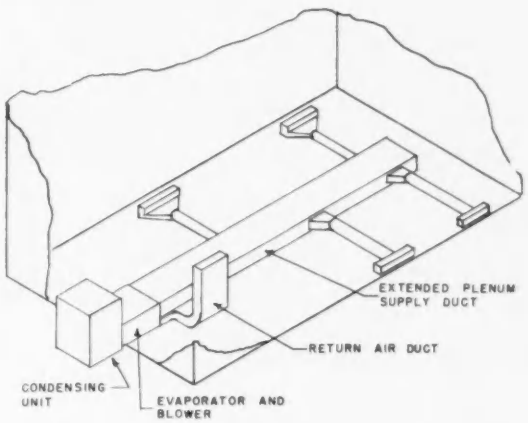


Figure 10

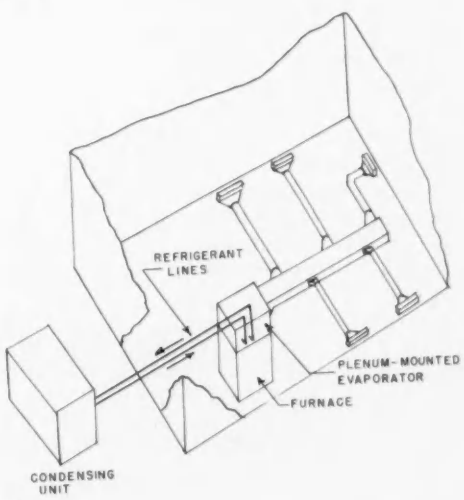


Figure 11

NEW STAFOAM* CORE SANDWICH PANEL OFFERS 2 TO 3 TIMES MORE THERMAL RESISTANCE



Calcore Sandwich Panel of pre-foamed slab Stafoam bonded to the skin with Stabond adhesive.*

WON'T ABSORB OR TRANSMIT MOISTURE

With a K factor of 0.15 at 75°F mean temperature, Stafoam offers superior resistance to heat transfer with thinner yet stronger panels than most competitive core materials. And it maintains this insulating efficiency for the life of a building.

Moisture-proof, due to its unique cell structure, Stafoam is an Improved Urethane rigid foam with high temperature limits. It is dimensionally stable, lightweight, durable, self extinguishing and non-corrosive.

Bonded to any skin material with super-strength Stabond adhesive, pre-foamed slab Stafoam—in varying densities and thicknesses—becomes a panel for post and beam or grid construction, roof deck or a load-bearing wall of tremendous strength-weight characteristics and high shear resistance.

Offering complete latitude in design, sandwich panels of pre-foamed Stafoam, bonded with Stabond, have insulating value that lasts . . . offer lower handling, installation and maintenance costs . . . highest quality construction.

Stafoam core sandwich panels are available in a wide range of sizes, thicknesses and facings from the Architectural Porcelain Division of Caloric Appliance Corp., Jenkintown, Pa. For additional information about Stafoam core material and Stabond adhesives, write: Dayco Urethane, Dayco Corporation, Dayton 1, Ohio.

*Registered Trademark

stafoam®

Made by DAYCO URETHANE, Dayton, Ohio
and AMERICAN LATEX PRODUCTS CORPORATION, Hawthorne, California
Divisions of Dayco Corporation *(formerly Dayton Rubber)*

Dayco HEADQUARTERS FOR **NEW** IDEAS

RESIDENTIAL WARM AIR HEATING AND AIR CONDITIONING: 9—Summer Air Conditioning

by S. Konzo, Professor of Mechanical Engineering, University of Illinois; E. J. Brown, Research Associate in Mechanical Engineering

high sidewall or ceiling outlets provide satisfactory results in the form of uniform room-air temperature and air motion. Low sidewall and floor outlets located along the exposed wall and discharging vertically will prove acceptable if the recommendations of the National Warm Air Heating and Air Conditioning Association are followed.

Design of Air Distribution System

In Manual No. 11 of the National Warm Air Heating and Air Conditioning Association, step-by-step design procedures are shown in considerable detail for four different types of duct distribution systems, as follows:

a) trunk duct system
b) perimeter-radial system
c) perimeter-loop system
d) small pipe (4-in. round) system

The details of the design procedures should be obtained from the Manuals. However, pertinent information concerning the design of a 4-in. round duct system, with floor diffusers, will be presented here to show the type of information available in the Manuals.

This small-pipe system is similar to the perimeter-radial system described in the warm-air heating section of this article in that individual pipes connect each supply outlet with the furnace plenum. The system is ideally suited to a plenum-mounted evaporator connected to remotely located compressor and condenser. The principal details of the duct system can be itemized as follows:

a) Determine the heat gain for each room to be conditioned.
b) Locate floor diffusers under windows wherever possible.
c) Locate the furnace plenum (in which the evaporator is housed).
d) Show the tentative duct plan connecting the diffusers with the plenum. The length of the individual ducts should be noted on the plan, as well as the number of right-angled elbows in each individual duct.
e) Refer to Table 5 which lists the Btuh capacities of individual 4-in. ducts according to the length and the number of elbows. For example, a duct which is 22 ft long and contains 3 elbows shows a Btuh capacity of 1680 Btuh under summer conditions. (Note that this capacity does not apply to winter heating conditions). If the capacity of a single duct is not sufficient for the room, additional ducts should be used.
f) Locate the return-air duct system, which should be simple and direct. In small homes, a single return-air grille located in a central hallway is usually sufficient. Complete details for the design of the return-air ducts system are given in Manual No. 11.

The total air-flow rate for a given installation is determined by the capacity of the cooling unit that is installed, and manufacturers' catalog will indicate the magnitude of the flow rate that must be maintained. A deficiency in the air-flow rate passing over the evaporator may lead to difficulties in operation. For this reason, the duct design should be conservative and the number of ducts ample. If the air-flow rate is found to be inadequate in installation, a larger blower may be installed or the speed of the existing blower increased. The latter alternative is not recommended since even a slight increase in speed can result in greatly increased power requirements, frequently beyond the capacity of the existing motor.

Insulation of Ducts for Summer Cooling Installations

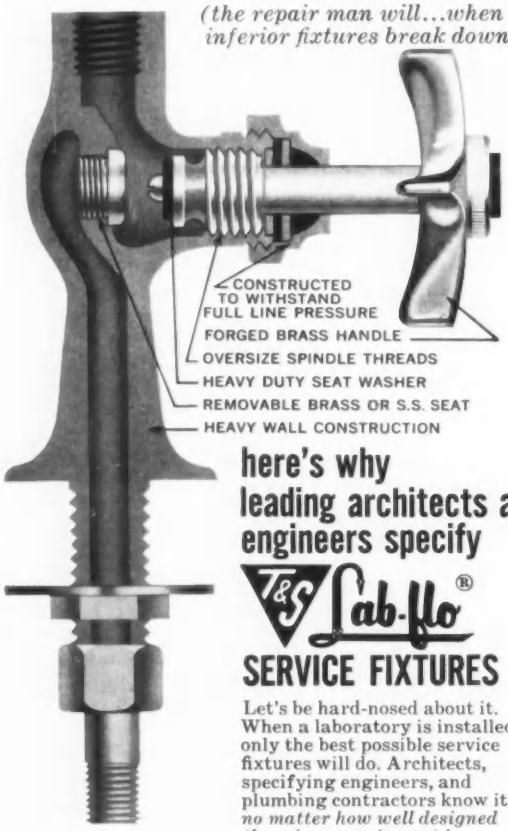
It must be realized that cooling effects are obtained at considerable expenditure of electrical energy and with relatively large sized equipment. Any loss of the cooling effect of the circulating air before it reaches the conditioned space is a most expensive one. For this reason, all ducts located in unconditioned spaces must be carefully and thoroughly insulated. On the outside of the insulating blanket must be applied an effective *vapor barrier*, which serves to reduce the passage of water vapor from the unconditioned space to the cold duct surface. Obviously, any moisture which condenses on the cold duct surface will penetrate the insulation, thereby reducing its efficiency, and may drip on surfaces below the duct. All joints should be effectively sealed with vapor-proof tape to prevent access of water vapor at the weakest link in the armor surrounding the duct. Preferred industry practice calls for 2-in. thick insulation on supply ducts and 1-in. thick insulation on return-air ducts.

TABLE 5: SUMMER AIR CONDITIONING—SIZING 4-INCH INDIVIDUAL PIPE SYSTEM

	Total cooling Btuh (sensible plus latent)									
No. of Elbows	Length of Pipe (feet)									
	0-5	6-10	11-15	16-20	21-25	26-30	31-35	36-40	41-45	46-50
1	2280	2140	2000	1920	1840	1760	1680	1620	1560	1510
2	2140	2000	1920	1840	1760	1680	1620	1560	1510	1460
3	2000	1920	1840	1760	1680	1620	1560	1510	1460	1430
4	1920	1840	1760	1680	1620	1560	1510	1460	1430	1400
5	1840	1760	1680	1620	1560	1510	1460	1430	1400	1370
6	1760	1680	1620	1560	1510	1460	1430	1400	1370	1320

LOOK "UNDER THE HOOD"
of LABORATORY SERVICE FIXTURES

(the repair man will...when inferior fixtures break down)



here's why leading architects and engineers specify T&S Lab-flo® SERVICE FIXTURES

Let's be hard-nosed about it. When a laboratory is installed, only the best possible service fixtures will do. Architects, specifying engineers, and plumbing contractors know it *no matter how well designed the science equipment is, it will operate only as well as its fixtures.*

It's a fact that there are important differences in fixtures used for laboratory furniture and it takes such experts to recognize them—even the busy repair man on his frequent trips to replace ordinary washers, re-grind worn seats, or to install whole new units because of stripped threads. That is why T&S Lab-Flo Service Fixtures, **heavy duty engineered and constructed throughout especially for laboratory use,** are preferred for wood or metal installations of any size or design. Lab-Flo is built for strength, safety, and ease of handling in the laboratory. No thin walls or shallow threads to break down, no weak parts to give out when full line pressure is applied. Look at a cross-section of a Lab-Flo fixture and you will see a cross-section of quality at its finest. You pay for quality—why not get it? You will...when you specify Lab-Flo right down the line on your next laboratory installation, new or remodeled.

THOSE IN THE KNOW SPECIFY Lab-flo



See your Lab-flo dealer or write for Catalog

SERVICE FIXTURES • HOSE COCKS
REMOTE CONTROLS • RECEPTACLES

Refer to 1960 Sweet's Catalog, Code: 27b/Ta

T&S BRASS AND BRONZE WORKS, INC.
138 MAGNOLIA AVE., WESTBURY, L.I., N.Y.
Telephone: EDgewood 4-5104

RUBBER and VINYL SEALS

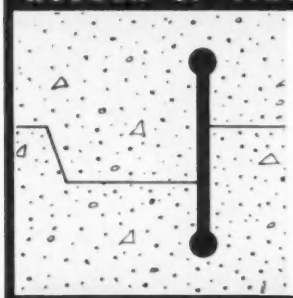
FOR MASONRY JOINTS

Water Seals for cast-in-place construction joints between concrete footings and walls, walls and floor slab, wall section and wall section, and floor slab and floor slab.

Sealing Gaskets for use between sill and coping stones, brick and stone wall panels, masonry wall panels and structural steel members.

Sealing strips for control joints in block constructed walls . . . watertight seals with an inherent, permanent liveliness for use in Michigan and Besser Control Joints.

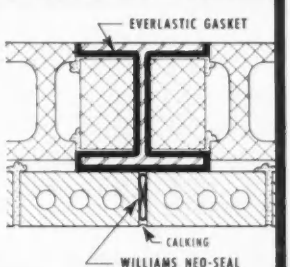
RUBBER or VINYL WATERSTOPS



Williams Waterstops are made from Natural Rubber Stock and designed for maximum effectiveness in any type of cast-in-place construction joint. They will bend around corners, and will not crack or tear from shear action. Tensile Test: 3990 lbs., Elongation Test: 650%. Available in rolls up to 80 feet in length. Field splicing is simple. Williams Waterstops can also be furnished in Vinyl or Neoprene for industrial uses where resistance to oil and other injurious wastes is desirable.

EVERLASTIC MASONRY GASKETS

Everlastic Masonry Gaskets are a readily compressible, nonabsorbent Elastomer impervious to water and inert to heat, cold and acids. In masonry joints they permit linear expansion in summer heat, and seal joints against moisture which causes frost damage in winter. Everlastic Gaskets are furnished die-cut to specifications and coated with pressure sensitive adhesive . . . they should be used between sill and coping stones, brick or stone wall panels, and masonry and structural steel members.



PERFECT-SEAL for CONTROL JOINTS



Williams "Perfect-Seal" (Pat. Pend.) is a specially designed seal for use in Michigan Control Joints . . . it provides continuous six-point pressure-contact sealing which keeps moisture out of joints and prevents air passage. The T-Section is a high-grade rubber compound; the cross-sealing member at the base of the "T" is a strip of readily compressible, non-absorbent, expanded closed-cell Neoprene Rubber—it provides an effective pressure-contact seal directly behind the calking.

See Sweet's Files, or Write for Information.

WILLIAMS
EQUIPMENT and SUPPLY CO.
456 W. Eight Mile Rd., Hazel Park, Michigan

here's

STRENGTH

where it counts...
in the

HARDWARE

Get away from coatings and plating, and you have the solid-metal strength and durability that's needed in toilet compartment hardware.

That's why Fiat *LIFE-LINE Harmonized Hardware* is solid-to-the-surface selected alloy . . . aluminum above the floor, stainless steel for floor shoes . . . all in a harmonizing satin finish that blends with any decor.

It's top quality, furnished without exception for every Fiat Enclosure installation because it's been tested and proved best for the purpose.

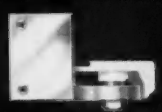
FIAT



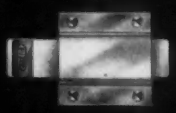
S-2 Alloy Wall Stirrups



S-2 Alloy Top Hinge Bracket



S-2 Alloy Bottom Hinge Bracket



S-2 Alloy Slide Bolt



Stainless Steel Plinth



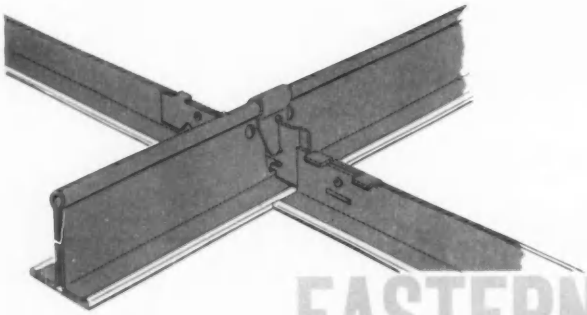
Send for new Brochure: "Fiat Toilet Enclosures" to get the facts about the FIAT line, as well as architectural details and specifications.

5 STRATEGICALLY LOCATED PLANTS FOR FAST DELIVERY AT LOWER COST!

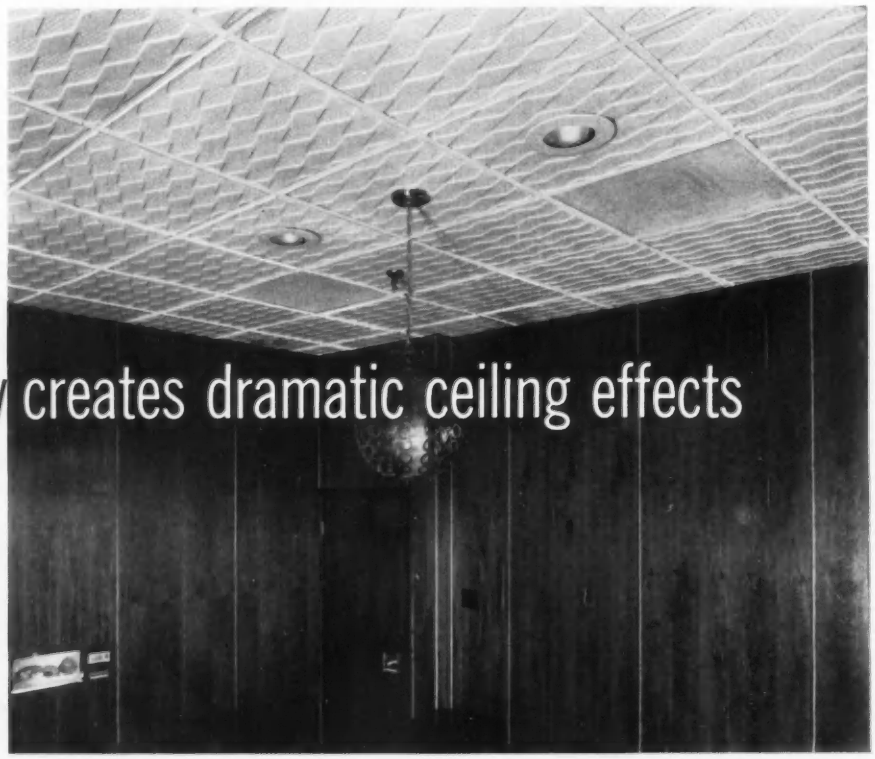
FIAT
METAL MANUFACTURING CO.
9301 Belmont Avenue,
Franklin Park, Illinois

Los Angeles, California | Franklin Park, Illinois | Orillia, Ontario, Canada | Albany, Georgia | Plainview, Long Island, New York





EASTERN'S NEW GOLDEN ACOUSTICAL SUSPENSION SYSTEM



economically creates dramatic ceiling effects

Illustrated above is the newest in Eastern's complete line of acoustical systems—with a distinctive, bright golden finish. Like all Eastern mechanical suspension systems it offers exceptional structural strength, supports light fixtures as well as air diffusers . . . in many cases without additional hangers. Ready accessibility, wide choice of ceiling materials, low cost of installation and complete flexibility of design make it a practical answer to every ceiling construction problem. **Write now for full information.**

R

Acoustical Division, Eastern Products Corp.,
1601 Wicomico St., Baltimore 30, Maryland

Please send details on Eastern's mechanical suspension system.

name

street

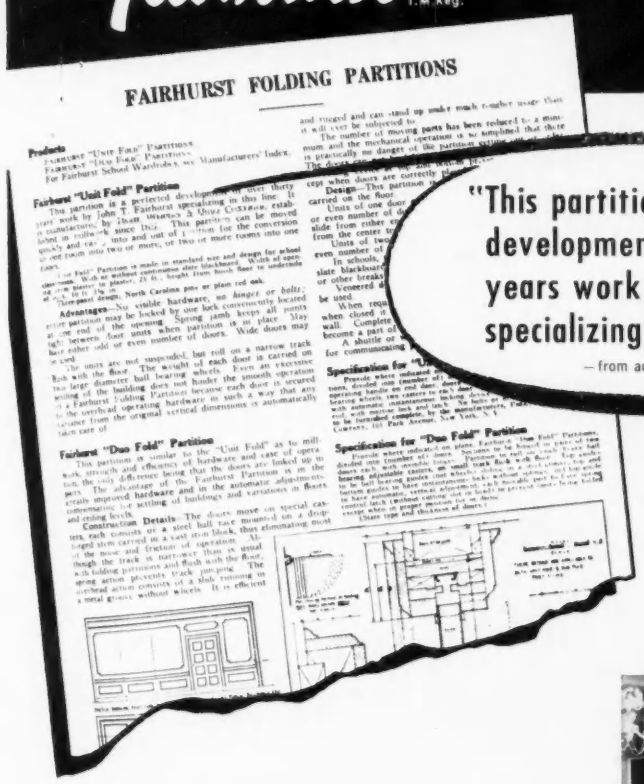
city zone state

SEE OUR CATALOG IN SWEET'S

Eastern
Products Corporation

1601 Wicomico St., Baltimore 30, Md.

Fairhurst T.M. Reg. the Standard for Excellence in Folding Walls


FAIRHURST FOLDING PARTITIONS

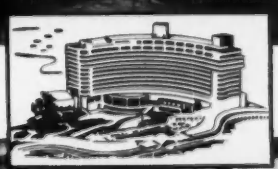
"This partition is a perfected development of over thirty years work by John T. Fairhurst specializing in this line."

— from advt. in Sweet's Catalog File, 1931

Many years ago the Fairhurst Folding Wall came of age. Even the name "Fairhurst" itself is a registered trademark for a product that is specific and unique.

Fontainebleau Hotel, Miami Beach, Morris Lapidus, architect





▲ Wall separates ballroom and dining room

▼ Wall stored and concealed



Basic Fairhurst principles — patented since 1911 — have made John T. Fairhurst Company the leader in "Space Engineering" . . . the efficient use of room areas.

This hard-earned experience has successfully met the challenge of new materials and new building concepts: from the world's first curved glass folding wall to walls made in the widest range of woods and metals to match or harmonize with any decor. Fairhurst Folding Walls are custom-made . . . in virtually any size or complexity.

A Fairhurst Wall is made of separate units, so constructed that sound retardance is higher than in any other movable wall. Hotels, Clubs, and Institutions have taken full advantage of the Fairhurst Folding Wall which, in function and style, becomes an integral part of the building. Ingenious patented pockets conceal the entire wall when desired . . . assuring unparalleled flexibility in room use.

We heartily invite your inquiries toward the most efficient use of your inner space areas. There is no obligation, of course.

John T. Fairhurst Co., Inc.

45 West 45th Street New York 36, N.Y.

First Name in Folding Walls

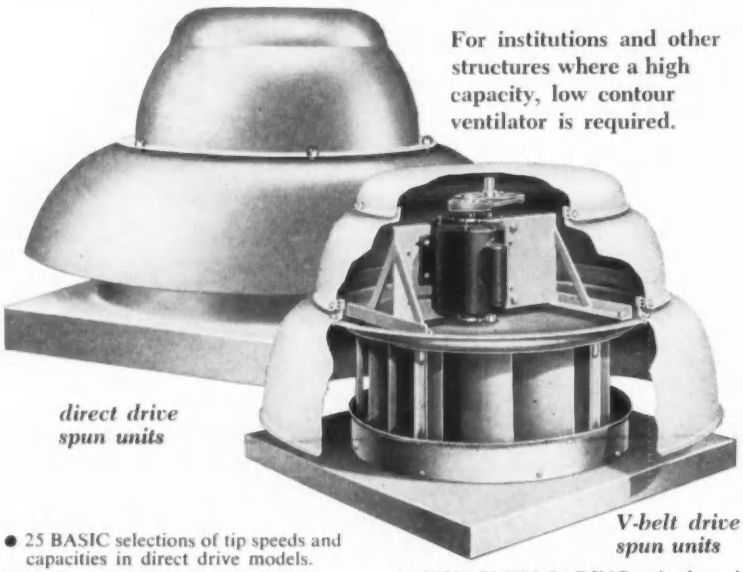
NEW

Burt

Spun Aluminum

Direct and V-Belt Drive Centriflow Fan Ventilators

For institutions and other structures where a high capacity, low contour ventilator is required.



direct drive spun units

V-belt drive spun units

- 25 BASIC selections of tip speeds and capacities in direct drive models.
- 64 BASIC selections of tip speeds and capacities in V-belt drive models.
- CAPACITIES from 65 to 27,648 CFM.
- HORSEPOWER ratings from 1/60 to 7½.
- SIZES from 6" through 48" wheel diameters.
- STATIC PRESSURE range from O" through 1" W.G. (Higher static pressures on application).
- LOW PROFILE heavy gauge spun aluminum housings.
- NON-OVERLOADING backward curved, non-sparking aluminum fan wheels.
- ADJUSTABLE SHEAVES on V-belt units to change capacities at anytime.
- DAMPERS available in drop-in sleeve type, automatic back-draft or motor operated.
- BURT DESIGNED for minimum noise levels.
- AMCA CERTIFIED capacity ratings for units of 16" wheel diameter and larger.



Send for **FREE** *Data Book!*

Write for Centriflow Data Book SPV-12C-160 and Burt Data Book SPV-101-H which supplies quick data on Burt's complete line of modern Roof Ventilators.

FAN & GRAVITY VENTILATORS • LOUVERS • SHEET METAL SPECIALTIES

The Burt Manufacturing Company

48 E. South St. AKRON 11, OHIO

MEMBER AIR MOVING & CONDITIONING ASSOCIATION, INC.

Post and Lintel . . .

continued from page 231

BIBLIOGRAPHY

KEY: (B) Book; (M) Magazine; (N) Newspaper

1) *Brooklyn's Eastern District* (B) Eugene L. Armbruster, Pub: Brooklyn, 1942, pp. 87, 148 and 256.

2) *Classical Brooklyn: Its Architecture and Sculpture*, An Exhibition of Drawings and Photographs, Nov. 10, 1956 by Henry Hope Reed, Jr. and John Barrington Bayley.

3) *Dictionary of American Biography* (B) Vol XV, pp. 128-139, Pub: N. Y. Charles Scribner's Sons, 1935.

4) *Eagle Almanac*, Feb. 28, 1892, in re Smith Gray & Co.'s store.

5) *Eagle and Brooklyn, The* (B) Ed: Henry W. B. Howard, Pub: Brooklyn, The Brooklyn Daily Eagle, 1898, pp. 1156 and 1167.

6) *Fire Proof Grain Elevators, Brooklyn, N. Y.* American Architect & Building News (M), Vol 2, No. 99, Nov. 17, 1877, p. 371 Col. 2.

7) *Hecla Iron Works from 1876-1908* (3 Vols) Scrapbooks of photos of jobs by Hecla, N. Y. Public Library.

8) *History of Long Island from Its Earliest Settlement to the Present Time, A*, Vol. II (B), Peter Ross, L.L.D., Pub: N. Y. & Chicago, The Lewis Publishing Co., 1902.

9) *Home of Niels Poulson, The*, George G. Wheat, American Scandinavian Review (M), Vol XIX, Feb. 1931, pp. 111-113.

10) *Illustrations of Ornamental Iron & Bronze Work Executed by the Hecla Iron Works* (Formerly Poulson & Eger) (B), Pub: N. Y., Blumenberg Press.

11) *Iron Construction in New York City*, Louis De Coppet Berg, Architectural Record (M) Vol 1, No. 4, April-June, 1892.

12) *Miniature Atlas of the Borough of Brooklyn* (Vols I and II) (B), Pub: N.Y., E. Belcher Hyde, 1912 (Vol I, p. 414; Vol II, p. 291).

13) *New Fireproof Construction, A* (by N. Poulson) American Architect & Building News (M), Vol 39 No. 900, March 25, 1893, pp. 182-184 inclusive.

14) *Niels Poulson—Character Sketch and Review of the Lifework of the Danish-American Ironmaster*, American Scandinavian Review (M), Vol 3-4, 1910-11, pp. 13 & 23.

15) *Niels Poulson Number*, American Scandinavian Review (M) Sept.-Oct, 1915.

16) *Obituaries:* Brooklyn Daily Eagle (N) May 3, 1911; New York Daily Tribune (N) May 4, 1911; New York Times (N) May 4, 1911.

17) *Patents:* No. 309, 799: 1884; 339, 465: 1886; 344, 790: 1886; 404, 982: 1889.

FOR THE NEW HARRIS TRUST BUILDING, CHICAGO, ILLINOIS

CURTAIN WALLS

IN STAINLESS STEEL

BY GENERAL BRONZE

Here's one of Chicago's newest and most modern office buildings —the new Harris Trust & Savings Bank Building. With fixed glass windows and stainless steel spandrel panels set within a gleaming stainless steel grid, the architects, Skidmore, Owings & Merrill, have created a building that is both pleasing and spectacular in its appearance.

An interesting effect has been provided by recessing the first, eleventh and twenty-second floors approximately 10 ft. on three sides. Air-conditioning and mechanical equipment is housed on the eleventh floor and is enclosed with stainless steel louvers. The twenty-second floor, used for executive offices, is glass enclosed and also features an interior open court.

As the country's foremost producer of curtain walls, windows and architectural metalwork in aluminum, bronze and stainless steel, General Bronze is also anxious to serve you. Why not call us in on your next job? Whether it be large or small, you'll find us helpful. Our catalogs are filed in Sweet's.

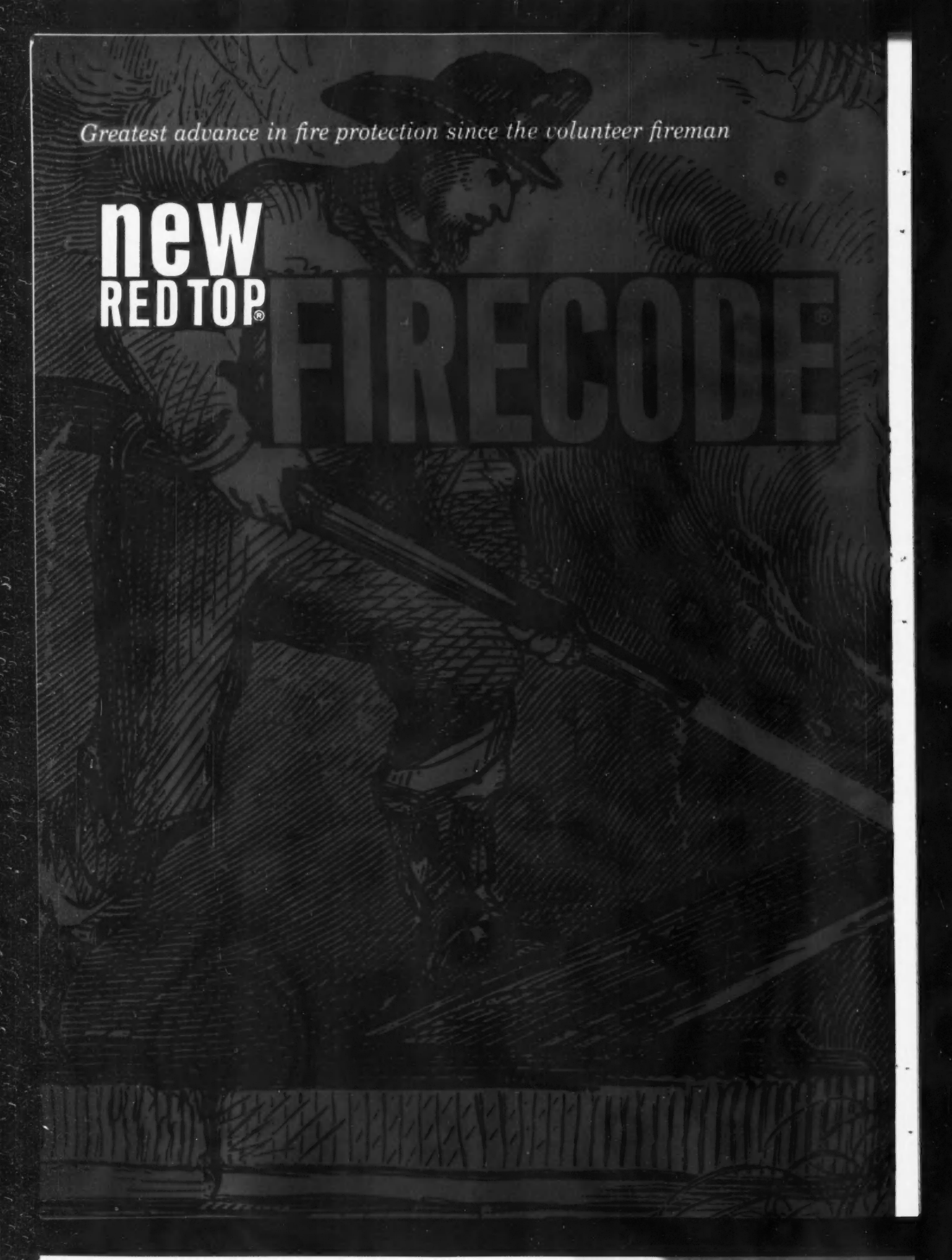


Harris Trust & Savings Bank, Chicago, Ill.
Architects: Skidmore, Owings & Merrill
Contractors: Turner Construction Co.

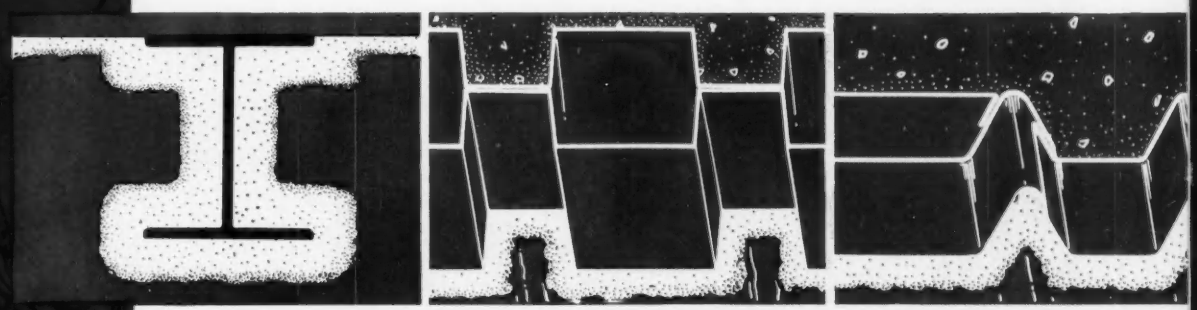
GENERAL BRONZE
CORPORATION · GARDEN CITY, N.Y.
SALES OFFICE: 100 PARK AVE., NEW YORK 17, N. Y.

GENERAL BRONZE CORPORATION GB

PERMATITE DIVISION—Windows, Curtain Walls, Architectural Metal Work.
ALWINTITE DIVISION—Stock-size Aluminum Windows and Doors.
BRACH MFG. CO. DIVISION—Radio, Television and Electronic Equipment.
STEEL WELDMENTS, INC. DIVISION—Custom fabrication in Steel and Iron.


Greatest advance in fire protection since the volunteer fireman
new
RED TOP®
FIRECODE®

RED TOP FIRECODE Plaster sprays directly to corrugated, flat or cellular steel units . . . steel beams or columns may be sprayed directly or boxed and sprayed.



SPRAY-ON PLASTER

One coat gives the fire rating you need–contact fireproofs steel deck assemblies at low cost.

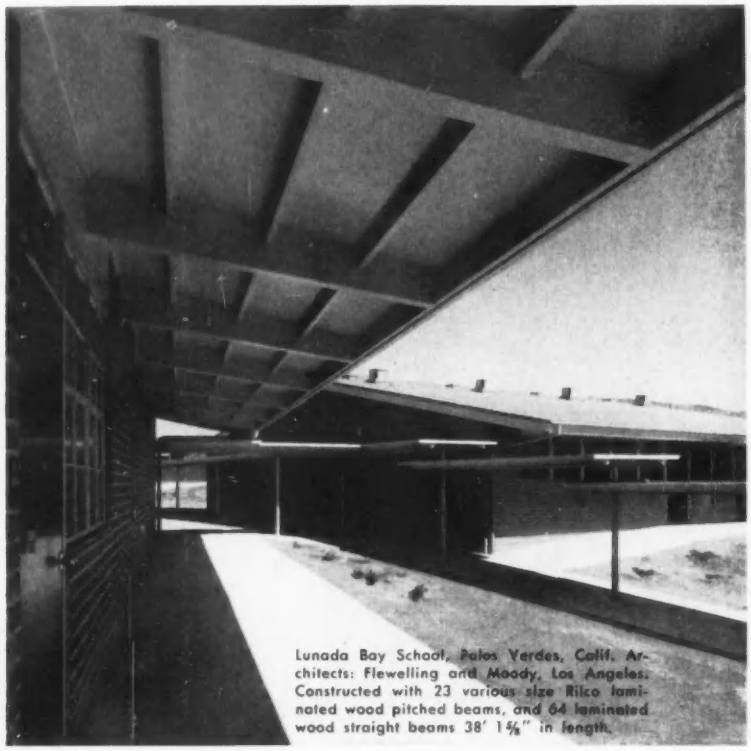
The greatest advance in low-cost fire protection for steel frame structures since the first skyscraper was built: new one-coat RED TOP FIRECODE plaster. It saves labor—sprays directly to steel decks, supporting beams and columns to provide the exact fire rating needed. It saves plaster—a single contour application is sufficient for steel deck assemblies. New RED TOP FIRECODE adheres to steel with a super-strong bond. One man can apply it. No hand tooling is needed. This means improved fireproofing at substantially less cost. Ask your U.S.G. representative for complete details, or write United States Gypsum, Dept. AR-02, 300 West Adams St., Chicago 6, Illinois.

U.S. UNITED STATES GYPSUM

UNITED STATES GYPSUM

the greatest name in building

Bettmann Archive



Lunada Bay School, Palos Verdes, Calif. Architects: Flewelling and Moody, Los Angeles. Constructed with 23 various size Rilco laminated wood pitched beams, and 64 laminated wood straight beams 38' 1⅝" in length.

Rilco Wood Beams Offer Design Freedom Plus Construction Economy

Architects find laminated wood structural members ideal for school construction. Reports L. H. Wilkinson, Flewelling and Moody, Los Angeles, architects for Lunada Bay School, Palos Verdes, Calif., "We have been using laminated wood products in school construction for a number of years and find them to be an economical method of construction." Adds Theodore Willis, Crown Construction Co., Los Angeles, "The Rilco laminated beams used in this roof were easily erected, resulting in besting our original labor estimate for the job."

Rilco laminated wood arches and beams add warmth and character to any building—besides offering unlimited design possibilities. All members are carefully fabricated and bonded together by glues stronger than the wood itself for lasting beauty and minimum upkeep. Our service engineers will be happy to consult with you, without obligation.

RILCO
works wonders with wood

RILCO LAMINATED PRODUCTS
W818 1st National Bank Bldg.
St. Paul 1, Minn.
DISTRICT OFFICES:
Newark, New Jersey; Fort Wayne, Indiana
Tacoma, Washington





Write for free school construction catalog.

Product Reports

continued from page 235



Moisture Detector
The *Model G-2 Detector* tests for moisture in wood, plaster, asbestos shingles, brick, stucco and concrete. It can be used to isolate conditions causing blistering and peeling of paint and wallpaper, warpage or shrinkage of wood or loosing of linoleum or floor tile. It measures wood moisture contents from 7 to 30 per cent, uses one "B" battery and a flashlight cell, is 7 by 4 by 2 in. in size. *Delmhorst Instrument Co., Boonton, N. J.*

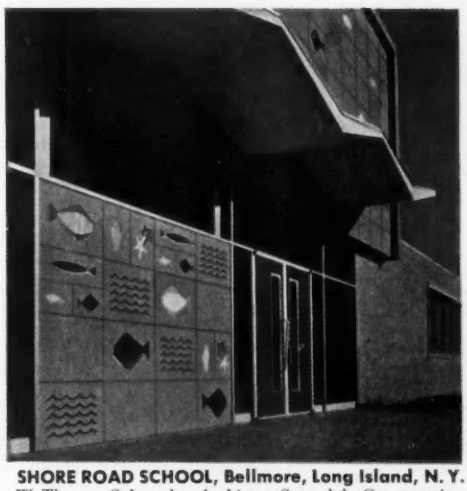


Aluminum Solar Canopies
Extruded aluminum solar canopies have been designed for cantilever installation up to 5 ft and are available in greater depths via suspension installation. Vanes are of 12-ga. aluminum and several fascia designs are available to allow for different architectural treatments. These canopies are designed for a snow load of 30 lb per sq ft, and a special water-proof canopy is designed to protect against rain. *Brisk Waterproofing Co., 103 Park Ave., New York 17, N. Y.*

more products on page 256



Creative challenge? Consider Ceramic Veneer!



SHORE ROAD SCHOOL, Bellmore, Long Island, N. Y.
W. Thomas Schaardt—*Architect* • Scarsdale Construction Company—*Builders* • Colorful murals with a marine motif were executed in polychrome Ceramic Veneer. Unit sizes are 27 x 18 inches and 30 x 21 inches.

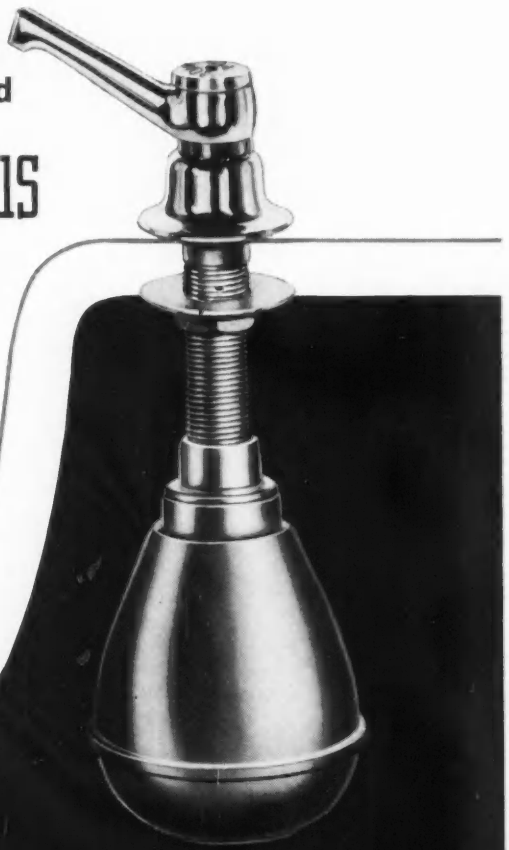
Designing a building combining beauty with function is a challenge to creativity. Ceramic Veneer—by offering a virtually unlimited choice of form, color and texture—helps you meet this challenge and create buildings of unusual distinction. No other material is so versatile, so stimulating to architectural expression. Whether your plans call for plain surfaces, polychrome panels, sculpture or grilles—for interiors or exteriors—they are always faithfully executed in Ceramic Veneer. For each unit, large or small, is custom-made to your precise specifications by Federal Seaboard craftsmen. What's more, Ceramic Veneer provides the advantages of permanence, price and minimum maintenance. Without charge we will gladly furnish construction detail, data, color guide brochure, advice and estimates on preliminary sketches involving Ceramic Veneer. Write us today.

FEDERAL SEABOARD TERRA COTTA CORPORATION
10 EAST 40TH ST., NEW YORK 16, N. Y.
PLANT AT PERTH AMBOY, NEW JERSEY

F S T C

FUNCTIONAL AS A FAUCET

the liquid soap dispenser most specified by leading engineers . . . IMPERIAL Watrous



Here's the clean, uncluttered answer to modern washroom needs. This Watrous design mounts *through* the lavatory, putting the soap container underneath and out of sight. And it's easy to fill, as well. The pushbutton cap is simply unscrewed and liquid soap poured in. No need to remove the container below.

Because it's a Watrous, you can be sure of dependability and durability. The dispenser is made of bronze, with vital working parts of corrosion-resistant stainless steel. All exposed parts above lavatory are nickel silver, heavily chrome plated.

Watrous concealed container soap dispensers are available for mounting in 1¾″ or 4″ thick lavatories, to fit a 1″ minimum hole. Soap containers are furnished in clear glass, metal or polyethylene. Write for Catalog 472 (A. I. A. File No. 29-i).

The Imperial Brass Manufacturing Co.
Dept. AR-50, 6300 West Howard Street
Chicago 48, Illinois



FOR WALL MOUNTING, SPECIFY THE HANDSOME TEAR DROP . . .

Sparkling all-metal Watrous Tear Drop soap dispensers are vandalproof. Exclusive "Eagle Eye" indicators show when refilling is needed.

GRANWOOD FLOORING

Would you like a distinctive new flooring—one that offers the advantages of both wood and tile, with none of their drawbacks? Especially, would you like such a flooring to be fire-resistant and practically waterproof, silent to the tread, resilient and easy to maintain—and above all—beautiful?

Investigate Granwood! Its useful size and smart colors permit unlimited creative design. Basic designs—straight stack, basket weaves or herringbone—take on new distinction with Granwood. Or create new patterns tailored to each room as you design it. Nine colors: Standard, Natural or Dark Oak, Mahogany, Black, Sea Green, Beige, Ice Blue, Hopton Wood Grey.

Find out more about Granwood and how it can be used in schools, residences, lobbies of all kinds, banks, gymnasiums, airport terminals, hospitals, all kinds of public buildings. Fill out the coupon below and start flooring your clients with beautiful, practical Granwood!

freedom of design

Natural Oak • actual size

AMERICAN GRANWOOD FLOORING CO.
P. O. BOX 364, CLINTON, S. C.

Please rush full information concerning Granwood, including samples.

NAME_____

FIRM_____

STREET_____

CITY_____ ZONE_____ STATE_____

FRANCHISED GRANWOOD CONTRACTORS:

ATLANTA, GA.:
U. S. Mosaic & Tile Co.
151 Mill St., N. W.

BATON ROUGE, LA.:
DeFrances Marble & Tile Co.
3380 Florida St.

CHICAGO, ILL.:
Allen Tiling Co.
3232 Elston Ave.

CINCINNATI, OHIO:
T. H. Winston Co.
3666 Paxton Ave.

HOUSTON, TEXAS:
Martini Tile & Terrazzo Co., Inc.
1915 Dallas Ave.

INDIANAPOLIS, IND.:
F. E. Gates Marble & Tile Co.
5345 Winthrop Ave.

JACKSON, MISS.:
Stokes, Inc.
231 West South St.

JACKSONVILLE, FLA.:
Jacksonville Tile Co.
216 Riverside Ave.

METAIRIE, LA.:
K & K Floor Covering Co.
3405 Metairie Road

MIAMI, FLA.:
Manze Tile Co.
1370 N. W. 54th St.

MONROE, LA.:
Monroe Brick & Builders Supply
Box 1692

NEW YORK, N. Y.:
Port Morris Tile & Terrazzo Corp.
1285 Oak Point Ave.

PHILADELPHIA, PA.:
Selby Battersby Co.
5220 Whitby

SHREVEPORT, LA.:
United Tile Co.
4051 Mangum St.

ST. LOUIS, MO.:
St. Louis County Tile Co.
10665 Baur Blvd.

TALLAHASSEE, FLA.:
Capitol Tile Co.
317 W. Gainers St.

TAMPA, FLA.:
Steward-Mellon Co.
5101 E. Hillsboro Ave.

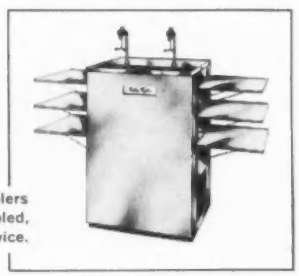
TOLEDO, OHIO:
Crowner Tile & Fireplace Co.
4149 Monroe St.

WINSTON-SALEM, N. C.:
Carolina Marble and Tile Co.
1001 Northwest Blvd.



NOONTIME, U.S.A. The clock strikes twelve—all America steps out to lunch. In company cafeterias employees have a welcome chance to relax and associate with other fellow members. Halsey Taylor is in this picture—has been for years—with modern cafeteria coolers that speed service and provide health-safe drinking water. Plant and management know that whether it's a cooler or a fountain, if it's Taylor-made it's always dependable! *The Halsey W. Taylor Co., Warren, Ohio.*

Halsey Taylor®



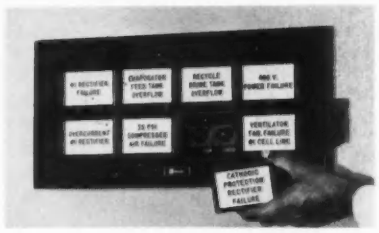
● They're many different kinds of cafeteria coolers in the Halsey Taylor line . . . some water-cooled, others air-cooled, all designed for lifetime service.

ASK FOR LATEST CATALOG, SEE SWEET'S OR THE YELLOW PAGES

Product Reports



Improved Fire Alarm
The talents of George Nelson were called upon for the redesign of the Acme 3-2 alarm. The new enclosure has a handle with a sure grip (see photo) and it extends only 2 in. from the wall rather than 3½ in. as earlier. The color has been changed from dark red to a red-orange with a black dot for emphasis. A simplified written message gives concise, accurate instructions. *Acme Fire Alarm Co., Inc., 106 Seventh Ave., N. Y. 11, N. Y.*



Industrial Lamp Annunciator
A new line of flexible, modular industrial lamp annunciators has been developed which will detect and indicate visually and audibly equipment malfunction. Among particular applications of the new units are the monitoring of pressure, temperature, opening of circuit breakers, high or low liquid levels, power equipment failure or any break in an electrical circuit. Three types of reinforced steel cabinets are available: flush panel mounted types with rear access terminals, flush wall mounted types with front access terminals and surface mounted types with front access terminals. Indicator sizes are 1 by 3 in., 1½ by 2 in. and 2 by 3 in. *Edwards Company, Inc., Norwalk, Conn.*

more products on page 260

For your next building . . . . . Color?
Configuration?
Single Wall?
Sandwich Wall?
Insulated Panels?

● Your selection and procurement are simplified by investigation of EGSCO metal wall products. They comprise a complete range of sheet and panel configuration, a usable variety of baked-on, durable enamel colors, and a practical assortment of wall components in your choice of aluminum or steel.

EGSCO metal wall products are engineered for sound building construction with an economy attained through improved erection techniques, reducing erection time.

EGSCO metal wall quality and practicality have been built upon the experience of years in actual building design and erection. Thousands of EGSCO buildings from coast to coast attest these attributes.

Finally there is this plus: EGSCO erection crews have the experience and know-how to erect any of these wall combinations quickly, soundly and at a realistic cost, where this service is desired.



Here's how you can contact the nearest district office of Elwin G. Smith & Co., Inc., manufacturers of EGSCO metal wall products:

Boston	CEdar 5-1924
Chicago	KIngswood 3-3350
Cleveland	JAckson 6-4332
Detroit	Toledo, Ohio GReenwood 4-8198
New York	Clifton, N. J. PRescott 3-3313
Philadelphia	OLdfield 9-6655
Pittsburgh	POplar 1-7474
Toledo	GReenwood 4-8198

See these EGSCO products in Sweet's:

Architectural File:	Industrial Construction File:
Curtain walls 3a/Sm	Curtain walls 3a/Sm
Sandwich walls 8b/Smi	Sandwich walls 8b/Smi
Corrugated sheets 8b/Sm	Corrugated sheets 8b/Sm
Roof Deck 2c/Sm	Curved conveyor hoods 8b/Smt
Steel forms for concrete roof and floor slabs 2a/Sm	Roof Deck 2d/Sm
	Steel concrete forms 2b/Sm

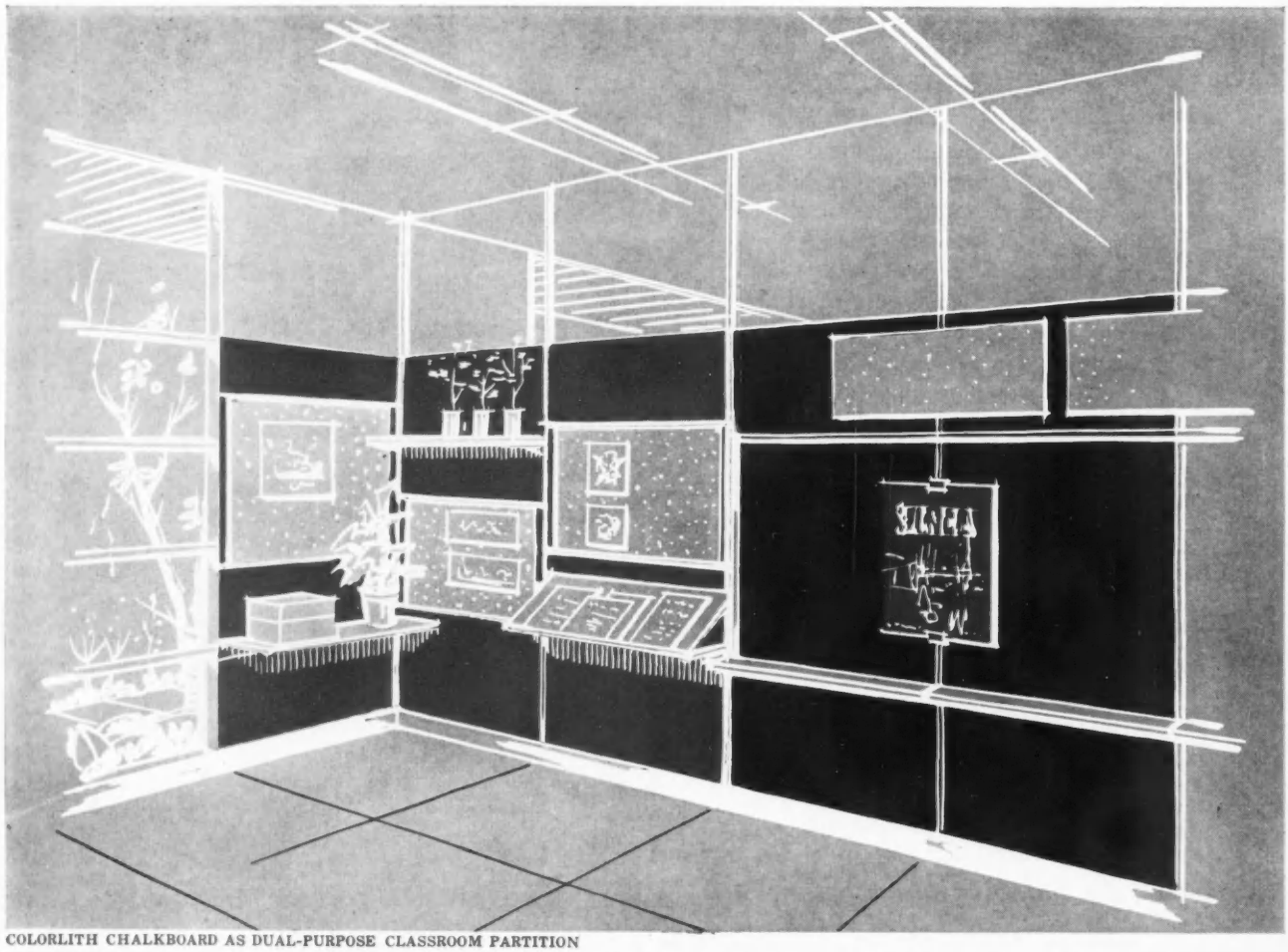
Copies of these catalogs may be obtained from the nearest office of:

ELWIN G. SMITH & CO., INC.

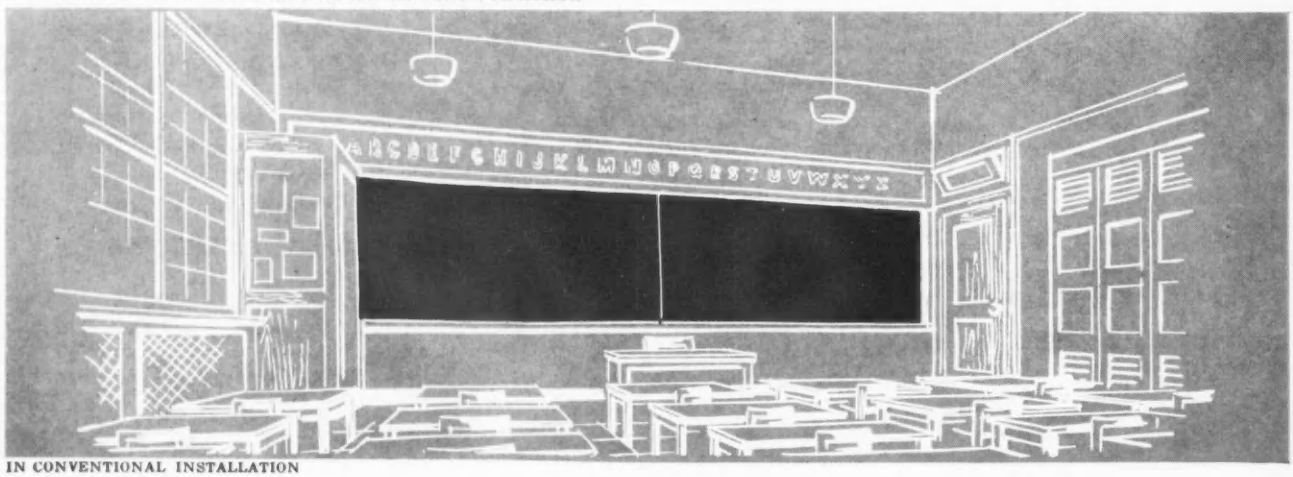
Manufacturers of EGSCO® Metal Wall Products

Pittsburgh 2, Pa.

Exciting new directions in classroom design



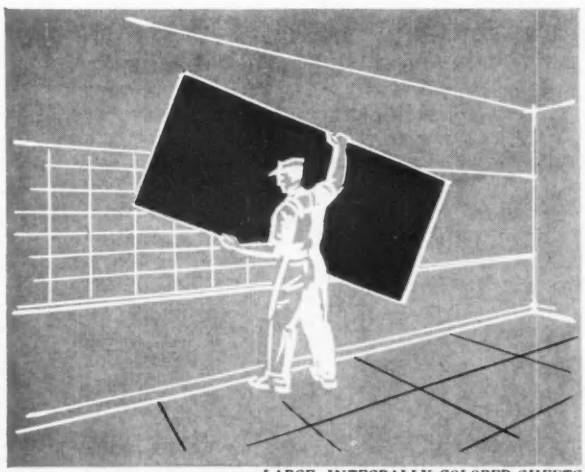
COLORLITH CHALKBOARD AS DUAL-PURPOSE CLASSROOM PARTITION



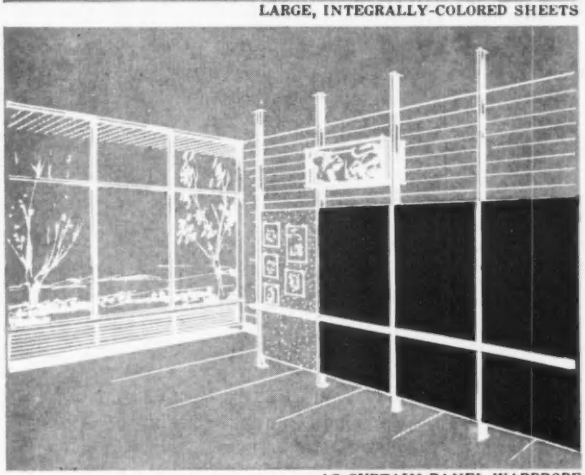
IN CONVENTIONAL INSTALLATION

now possible with

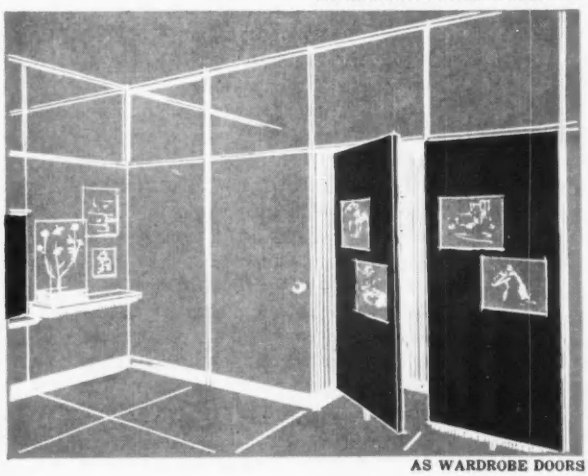
J-M COLORLITH® CHALKBOARD!



LARGE, INTEGRALLY-COLORED SHEETS



AS CURTAIN PANEL WARDROBE



AS WARDROBE DOORS

At last...an ideal writing surface that offers structural strength and decorative appeal!

Let imagination be your guide in finding exciting new uses for versatile J-M Colorlith Chalkboard! The integral color and structural strength of this unusual asbestos-cement material make possible such novel constructions as partitions...doors...wardrobe panels...movable storage units... convertible and easel-reversible units. Yet it costs less than other quality boards!

Colorlith is available in three eye-pleasing colors: Cyprus Green, Cameo Brown and Charcoal Gray. Panels in Projection White are also available for use as a screen for slides and films. The 4′ x 8′ panels are light in weight, easy to handle and install.

Colorlith affords good "tooth" without "drag." Chalk glides smoothly over the surface in a full, unbroken line of greater intensity. Colorlith chalkboards are easy to clean. Their clear, dark background permits erasure without "ghosting," requires no "chalking-in."

A few of the exciting new classroom uses for Colorlith are shown in a new brochure, "New Directions In Chalkboards," which is yours for the asking. Detailed schematics show how Colorlith can be installed with or without trim, using tackboard and snap-on chalk trays. You will find this brochure an exciting take-off point in discovering the advantages of J-M Colorlith—the most versatile chalkboard material you've ever seen!

JOHNS-MANVILLE

JOHNS-MANVILLE
Box 14
NEW YORK 16, N. Y.

Please send me J-M brochure IN-295A, "New Directions In Chalkboards."

NAME _____

FIRM _____

STREET _____

CITY _____

COUNTY _____ ZONE ____ STATE _____

Executone gives you **4-way service** for sound and intercom systems!

We provide not only wiring plans, shop drawings, specifications and costs, but with our nation-wide organization of exclusive distributors we also give your clients on-premise maintenance of equipment and instruct their personnel in its proper use. If you have a job on your boards that should utilize intercom or sound, you should be familiar with these four important Executone services;

Not only this...

1 Consultation Service
Executone's Field Engineers will assist you in determining your clients' communication needs... recommend the system designed for the job... provide you with a professional consultation service.

2 Installation and Supervision
Each local Executone distributor is prepared to take full responsibility for the final and satisfactory operation of the system, whether installed by the contractor, or his own factory-trained crew.

But also this!

3 On-Premise Maintenance
Each local distributor is staffed with skilled, factory-trained technicians. They also have complete stocks of standard replacement parts. Continuous, uninterrupted performance of every Executone system is assured.

4 Personnel Instruction
Local Executone representatives instruct your clients' personnel in the proper use of Executone Systems. This planned program assures maximum benefits through proper operation and utilization of their systems.

Architects and engineers are invited to send for Executone's 325 page Reference Manual "M-5." No charge or obligation. Please use your letterhead.

Executone

INTERCOM AND SOUND SYSTEMS FOR HOSPITALS, SCHOOLS, HOMES, PLANTS, OFFICES

415 Lexington Ave., New York 17, N.Y. • In Canada...331 Bartlett Ave., Toronto



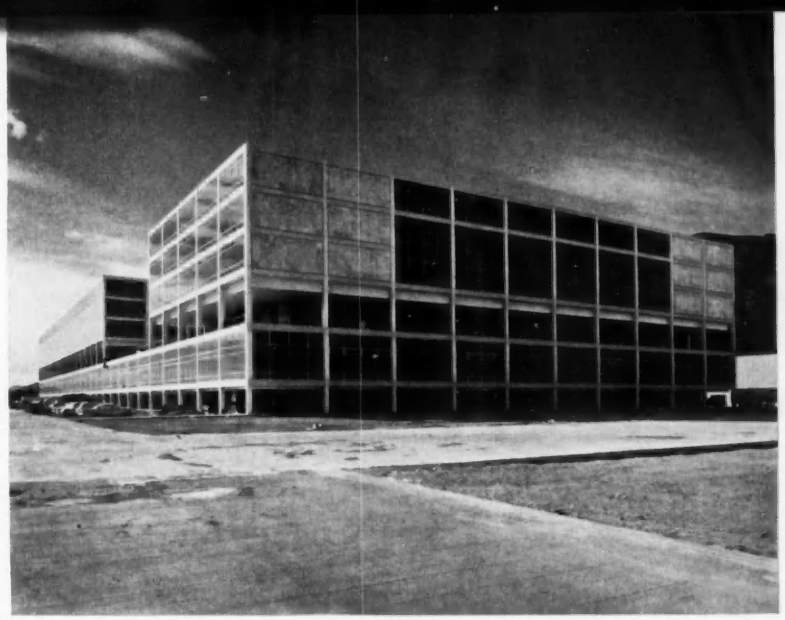
Product Reports

Stain-Proof Marble Sealer
Watco *Marble Seal*, a penetrating oil and resin polymerizer that seals the porous surfaces of marble and similar stone products from within, is said to prevent staining and discoloring from food colorings and ink as well as the usual household stains. Although it is not a surface coating that can wear off or wipe away, it is applied as though it were: it is simply wiped on, allowed to penetrate, and the surplus removed. It is said to be suitable for both interior and exterior use. *Watco-Dennis Corp., 1640 20th St., Santa Monica, Calif.*

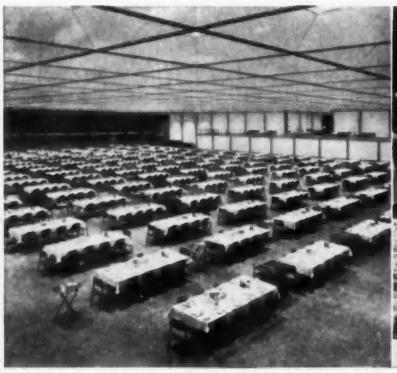


Language Laboratory
The *Electronic Learning Center* integrates classroom furniture, electronic equipment and new teaching techniques for use in foreign language instruction as well as speech therapy, remedial reading, student tutoring and public speaking. A teacher can give each member of a class individual instruction using tape-recorded lessons transmitted through earphones. The students, sitting in soundproofed cubicles, have fixed microphones through which they may tape-record their responses during the lessons and simultaneously hear their voices through the earphones. The teacher has a special monitoring control for checking or special tutoring. The teacher console-desk has four tape decks, each with four channels—a total of 16 tape channels. Student stations are constructed in units of two and four which may be combined according to classroom requirements. *American Seating Co., Grand Rapids 2, Mich.*

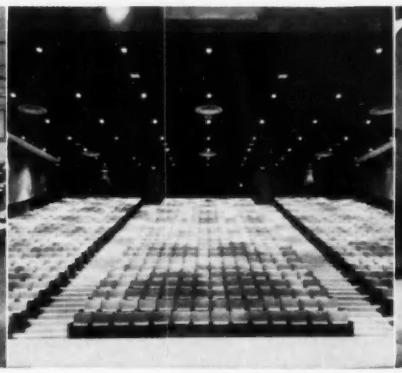
more products on page 264



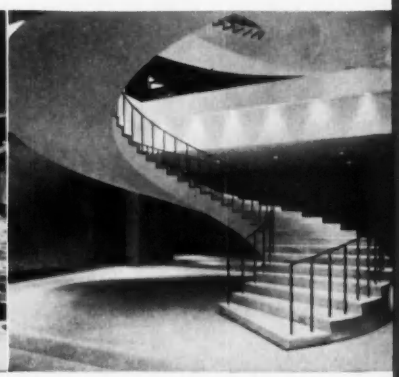
Lower campus level of Fairchild Hall is primarily an arcade, the middle level, a semi-open space creating a soaring quality for each of these planes. Steel, glass and cement are blended together to make this extremely functional structure a masterpiece of modern architecture.



To attain the clear expanse 256 ft. long and 300 ft. wide needed in Mitchell Hall, sections were welded together on the ground, the entire framework then jacked up to the proper height. The large paintable surfaces were color-styled in light values to encourage light reflectance from the windows.



This auditorium seats over 950. Here contrasting texture and color add variety to this room, while recessed ceiling lights and the lack of obstructing columns provide a sense of spaciousness.



The circular staircase lends a pleasant visual surprise in contrast to the more functional lines of the design. Black wrought iron railings accentuate the painted surfaces of the stairs and ceiling. Indirect lighting becomes a compelling design element by adding a touch of the dramatic.

Architect:
Skidmore, Owings & Merrill

Painting Contractor:
Earl W. Hamman Painting Co.—for Fairchild and Mitchell Halls

UNITED STATES AIR FORCE ACADEMY
Colorado Springs, Colorado

COLOR FUSES FUNCTIONALISM ...WITH AESTHETICS

The spectacular buildings comprising the United States Air Force Academy, located at Colorado Springs, are a masterpiece of planning. The unique interpretation of space combined with the unusual employment of modern building materials provide a sense of excitement in contrast to the mountainous country surrounding it.

Professional-level, color planning service by experienced Pratt & Lambert representatives...the suggestion of distinctive color plans, in addition to recommendations of authoritative painting specifications, is available upon request and without obligation. Please write: Pratt & Lambert Architectural Service Department, 3301 38th Ave., Long Island City 1, N.Y., 4900 S. Kilbourn Ave., Chicago 32, Ill., 75 Tonawanda St., Buffalo 7, N.Y., 254 Courtwright St., Fort Erie, Ontario.

CRAFTSMANSHIP IN THE PACKAGE...



the paint of professionals for over a century

PRATT & LAMBERT—INC.

NEW YORK • BUFFALO • CHICAGO • FORT ERIE, ONTARIO

PRATT & LAMBERT



SO EASY NOW...

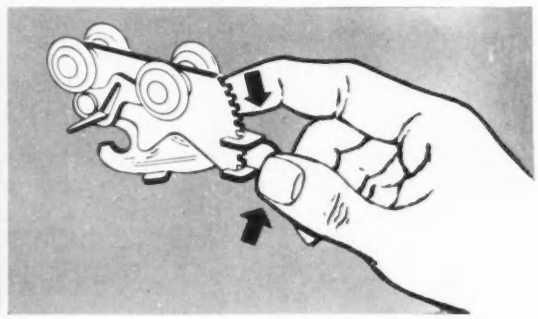
to adjust gliding doors!

NEW KENNAFRAME®

all-steel, warp-proof pocket door assembly with

FINGER ADJUSTING* HANGERS

NO NEED TO REMOVE STOPS, TRIM OR DOOR!
CUTS ALIGNMENT TIME IN HALF!
ENDS COSTLY CALL-BACKS!



NEW 900FA KENNAFRAME "Custom" series, prefabricated assembly for 1" to $1\frac{3}{4}$" pocket doors, easily installed by one man in half the usual time. Four screws lock entire unit; simple adjustments for perfect header and jamb alignment. Save time; assure lasting, trouble-free performance. Note ratchet-type adjuster; mere finger-touch permits easy, time-saving alignment. New instant door mounting eliminates millwork. These exclusive features available in pocket and by-passing hardware. Write TODAY for details! Kennatrack Corporation, Elkhart, Indiana. *Pat. Pend.

KENNATRACK®

KENNATRACK CORPORATION • Elkhart, Indiana • A SUBSIDIARY OF EKCO® PRODUCTS CO.



HOW TO KEEP ALLIGATORS FROM RUINING A ROOF

Cracks that make a built-up roof look like an alligator's back are normal signs of aging due to contraction and expansion of the top "pour coat" of waterproofing bitumen. Water gets in the cracks and may start rotting the paper-roofing felt reinforcement underneath. Eventually leaks may develop and a re-roofing job is required.

Roofing felts called Perma Ply* made of Fiberglas* do not rot. They reinforce the waterproofing in a different way than paper felts because they are porous. The bitumen blends together from one ply to another, forming a solid monolithic weathershield. Alligatoring stops at the first ply. And because Perma Ply Fiberglas felts are porous, they do not trap air or moisture between layers during application . . . the common cause of premature roof failure.

Fiberglas bonded roofs are applied only by qualified Fiberglas Approved Roofers skilled in their craft—and rigidly inspected by Fiberglas roofing experts. And Fiberglas Roof Insulation is the perfect companion for Perma Ply roofing materials . . . gives you another component for a long-lasting, quality roof from top to bottom. Fiberglas Roof Insulation is now available in the new 3′ x 4′ and 4′ x 4′ sizes that cover more deck area faster. There are fewer joints and less chance for trouble due to roof traffic.

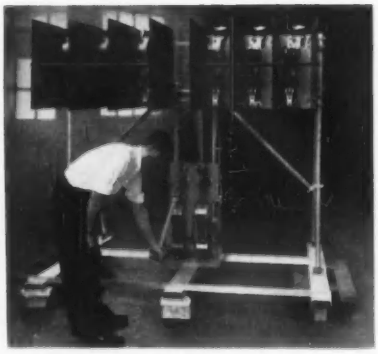
FIND OUT ABOUT the advantages of Fiberglas Built-Up Roofing and Roof Insulation. For complete descriptive literature, write to: Owens-Corning Fiberglas Corporation, Dept. 68-E, 717 Fifth Avenue, New York 22, N.Y.

OWENS-CORNING
FIBERGLAS

*T-M. (Reg. U. S. Pat. Off.) O-C-F. Corp.



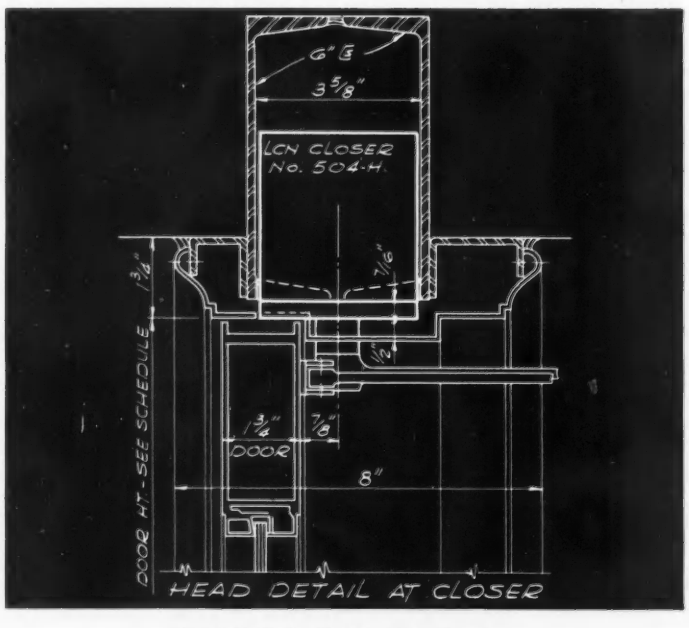
Telescoping Recovery Room Unit
Two patients can be served simultaneously from a new intensive-care nursing and service unit for hospital recovery rooms. The ceiling-mounted unit, which telescopes downward to nursing level when needed, can be raised to 6 ft 3 in. above the floor when not in use. Thus all supply lines, oxygen, vacuum and electricity can be brought directly to the bedside without crossing the floor, and beds can be located in the center of the room for better circulation. *National Cylinder Gas Div., Chemetron Corp., 840 N. Michigan Ave., Chicago 11, Ill.*



Automatic Power Transfer Switch
A dual cylinder, double throw automatic switch transfer mechanism has been developed for hospitals, freezer storage plants and other power users for whom an extended power interruption could prove disastrous. When power failure occurs, the mechanism opens the preferred source disconnect switch and cuts in the emergency power source. The cylinder for the preferred switch is activated by loss of voltage from the preferred line, which may be designated as either of two sources. *Delta-Star Electric Div., H. K. Porter Co., Inc., Chicago, Ill.*

Surfacing for Roof Decks, Floors
A new system for surfacing and water-proofing traffic decks and floors for both foot and wheel traffic features extreme light weight and low cost of materials and installation. Called the *Polyrock-Rubberite System*, this method uses a fiberglass reinforced rubbery blanket beneath a trowel applied surface of specially blended resins. *Rubberite*, the water-proofing layer, is applied in liquid form, and, when cured, bonds to the concrete slab. Its ability to "come and go" beneath the surface allows it to act as a slip agent. The surfacing is said to be unaffected by vibration, water, oil, acids, gasoline or salt and to withstand heavy wheel or foot traffic and the pressure from furniture legs. Depth of the surfacing averages $\frac{1}{8}$ to $\frac{1}{4}$ in. Standard color is gray, although other colors are available. *Plant Maintenance, Inc., Cleveland 21, Ohio*

more products on page 268



CONSTRUCTION DETAILS
for LCN Overhead Concealed Door Closer Installation Shown on Opposite Page

The LCN Series 500 Closer's Main Points:

1. Efficient, full rack-and-pinion, two-speed control of the door
2. Mechanism entirely concealed; arm visible on inside of an out-swinging door
3. Hydraulic back-check prevents door's being thrown open violently to damage door, walls, etc.
4. Double lever arm provides maximum power to overcome wind and drafts
5. Arm may be hold-open type, 90°—140° or 140°—180°

Complete Catalog on Request—No Obligation or See Sweet's 1960, Sec. 18e/La

LCN CLOSERS, INC., PRINCETON, ILLINOIS
Canada: Lift Lock Hardware Industries, Ltd., Peterborough, Ontario

Eggers & Higgins
Supervising Architects

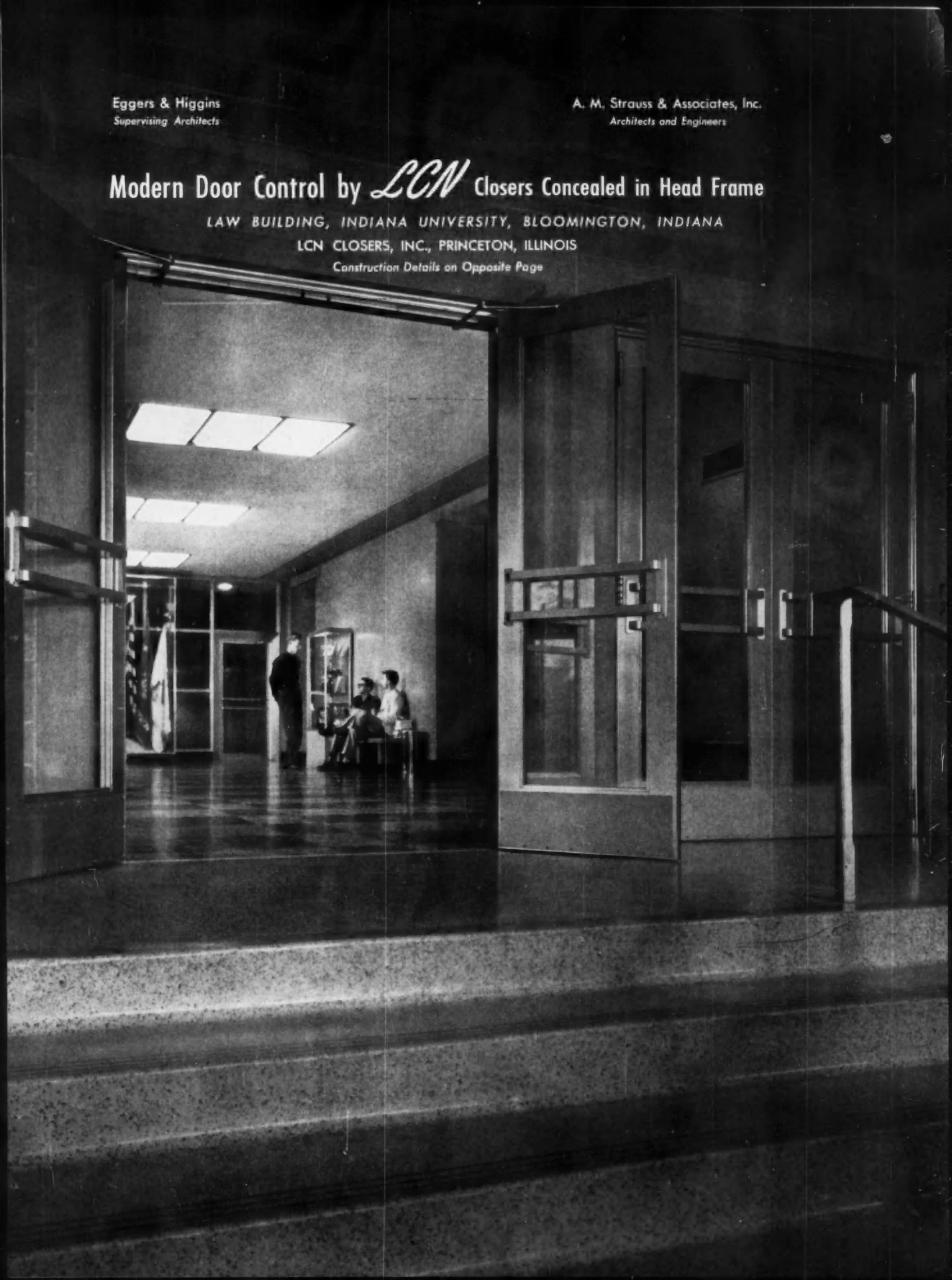
A. M. Strauss & Associates, Inc.
Architects and Engineers

Modern Door Control by *LCN* Closers Concealed in Head Frame

LAW BUILDING, INDIANA UNIVERSITY, BLOOMINGTON, INDIANA

LCN CLOSERS, INC., PRINCETON, ILLINOIS

Construction Details on Opposite Page



Designed, fabricated and erected to stop

LEAKAGE

before it starts...

Here's how—

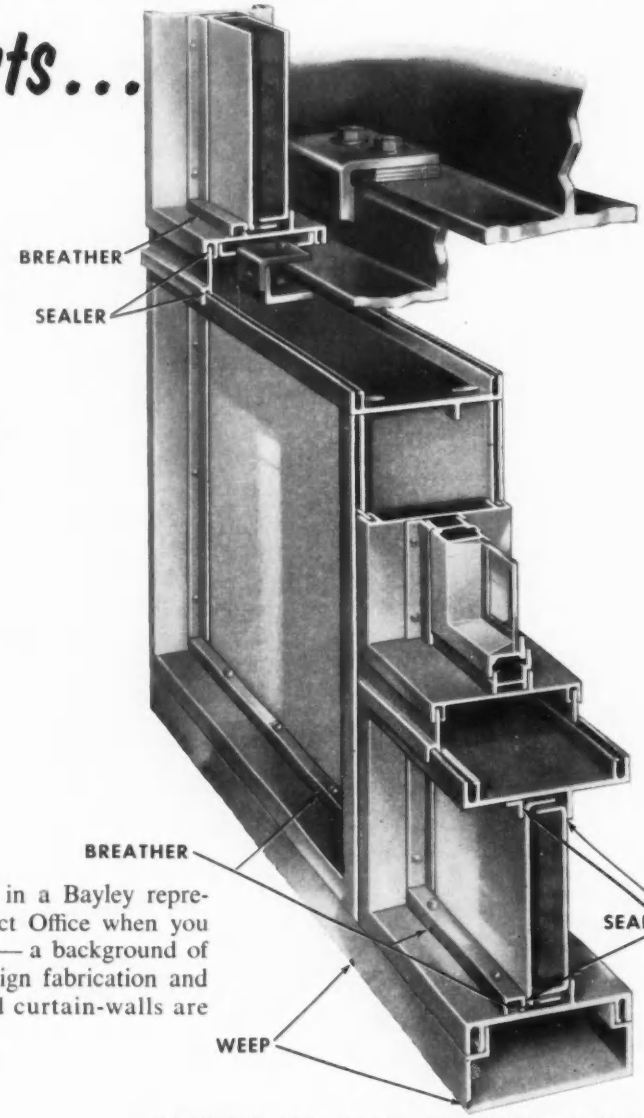
SPECIFY and INSTALL any one of the ten (10) BAYLEY curtain-wall systems and you are assured of:

1. **Adequate breathers and weeps scientifically positioned.**
2. **Proved sealants built-in during shop assembly of integral parts.**
3. **When erected, carefully selected reliable sealants are placed where and as they should be.**

And equally important — when we work with you on the development of the design, the details will provide for:

1. **Masonry and structural variations.**
2. **Wind load factors.**
3. **Contraction and expansion.**

Eliminate this problem — call in a Bayley representative or contact our District Office when you start the preliminary drawings — a background of 30 years experience in the design fabrication and erection of window-walls and curtain-walls are available to you for the asking.



STAGGERED BREATHERS AND WEEPS TO OUTSIDE

Bayley

WINDOW and CURTAIN WALL SYSTEMS

The WILLIAM BAYLEY Co.
Springfield, Ohio
Agents in All Principal Cities

District Sales Offices:

SPRINGFIELD, OHIO	NEW YORK 17, N. Y.	CHICAGO 2, ILL.	WASHINGTON 5, D. C.
1200 WARDER ST.	GRAND CENTRAL TERMINAL	105 W. MADISON ST.	1426 "G" ST., N.W.
FAirfax 5-7301	MUrray Hill 5-6180	RAndolph 6-5997	STerling 3-3175

ORIGINATORS • DESIGNERS • MANUFACTURERS • INSTALLERS



Ceiling diffusers, counter lighting and identification panels of PLEXIGLAS *at Port Columbus Airport, Columbus, Ohio*

PLEXIGLAS

FOR LIGHTING THAT STANDS OUT AND STANDS UP

The versatility of PLEXIGLAS® acrylic plastic as a lighting material is well demonstrated in the multiple uses shown above. To each application, PLEXIGLAS brings maximum efficiency in the transmission and diffusion of light. It also provides breakage-resistance, ease of cleaning, and freedom from discoloration. Above all, PLEXIGLAS has the permanent, quality appearance that complements good interior design.

We will be pleased to send you the names of manufacturers of lighting equipment that incorporates PLEXIGLAS.

Chemicals for Industry

ROHM & HAAS COMPANY

WASHINGTON SQUARE, PHILADELPHIA 5, PA.

In Canada: *Rohm & Haas Company of Canada, Ltd., West Hill, Ontario*

For All Light Construction Jobs

where LOW COST is a PRIME FACTOR...



HERE'S NEW ECONOMY, LONGER LIFE... MORE DESIGN FLEXIBILITY!

More and more architects are specifying Osmose Pressure Treated Wood for small office buildings, stores, medical centers, etc. because it combines low cost construction with long-lasting durability. The exclusive Osmose method guarantees deep penetration of toxic OSMOSALTS which prevent decay and insect attack. Osmose Pressure Treated Lumber *lasts 3 to 5 times longer* than untreated lumber . . . helps maintain the original strength factors of safety for the life of the structure. It needs no prime coat...holds paint better, longer . . . requires little maintenance. Builder find it non-corrosive and clean to handle. So look to wood . . . design with wood. Protect your plans with a specification for OSMOSE Pressure Treated Wood! It conforms to all Federal and State specifications. See our catalog in Sweets.

Typical areas requiring protection of OSMOSE Pressure Treated Wood

1. All roof decking and protective railings exposed to weather.
2. All exterior siding.
3. All job-framed millwork areas, windows, sashes, trim, frames, etc.
4. All sills and plates within 18" of ground or in contact with concrete (24" in South). Also sleepers or nailing pieces under floors laid over concrete.
5. All exterior decorative wood construction.

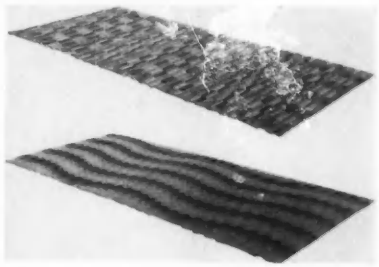
For MORE Freedom of Design, look to OSMOSE Pressure Treated Wood.



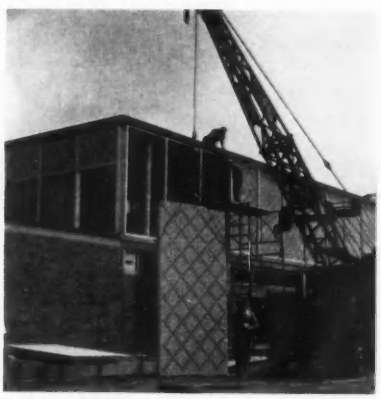
Pressure Treating Plants from Coast to Coast make Osmose Pressure Treated Wood readily available.

OSMOSE WOOD PRESERVING CO. OF AMERICA, INC.
983 Ellicott Street • Buffalo 9, New York

Product Reports



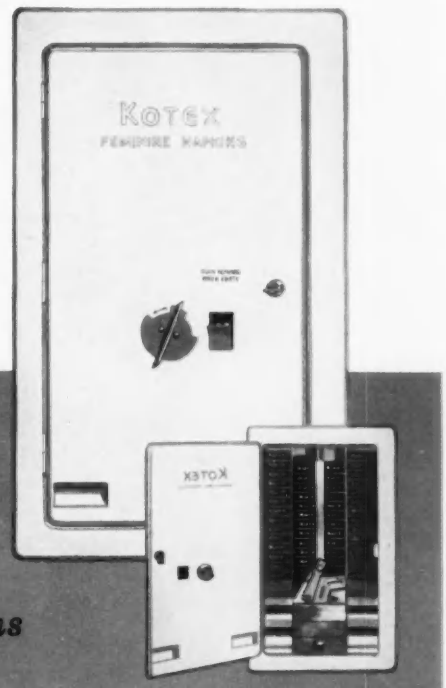
Serpentine Floor Tile
Large sheets of ceramic floor tile are now available in serpentine patterns. The new designs result from the way that the small 1-in. tiles are positioned. The tile sheets are available in right-hand and left-hand units, from which a wide variety of floor designs is possible. A brochure showing designs available in the new *Suntile Serpentile* pattern can be obtained from: *The Cambridge Tile Mfg. Co., Dept. P, Cincinnati 15, Ohio*



Mosaic Tile Wall Panels
Sandwich panels of precast concrete faced with mosaic ceramic tile are being produced in sizes up to 10 by 30 ft at factories in Marietta, Ohio and Baltimore, Md. Because of their strength and size, these panels can span from column to column or floor to floor with no intermediate steel work behind them. The panels are a finished interior-exterior wall, requiring no further work by plasterers; tile can be supplied on interior surface as well as exterior. These panels are marketed in the 18 states east of the Mississippi, south of Wisconsin, and including Tennessee and North Carolina. *The Marietta Concrete Division, American-Marietta Co., Marietta, Ohio*

more products on page 272





The ultimate in built-in convenience...

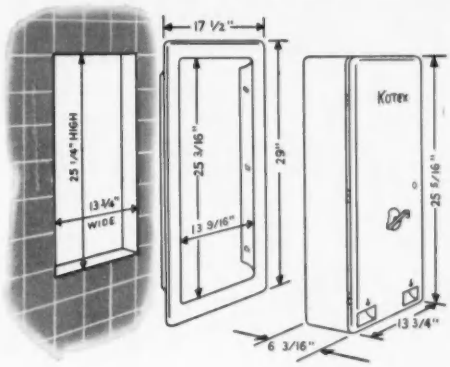
RECESSED VENDORS

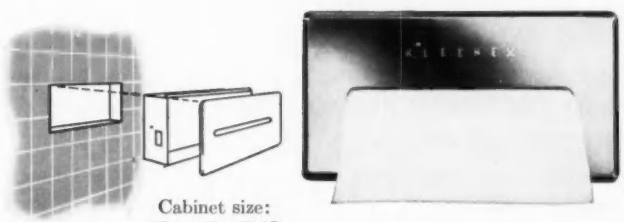
for KOTEX *feminine napkins*

TO KEEP PACE with the latest architectural designs, Kimberly-Clark has styled a brand new recessed dispenser for Kotex feminine napkins for rest room use in schools, offices, stores; industrial and public buildings. This unobtrusive, built-in vendor holds 63 individually boxed napkins. 33 vend from a single loading, 30 are held in storage.

These streamlined, sturdy, pilfer-proof vendors add a much appreciated service to any public building. They are available with either a five-cent or ten-cent coin mechanism.

Available in durable white enamel, satin chrome, gleaming polished chrome and stainless steel. Matching frame for recessed installation. (Other vendors that can be surface mounted are also available.)





Cabinet size:
5" x 11" x 2 1/16"

RECESSED DISPENSERS FOR KLEENEX TISSUES

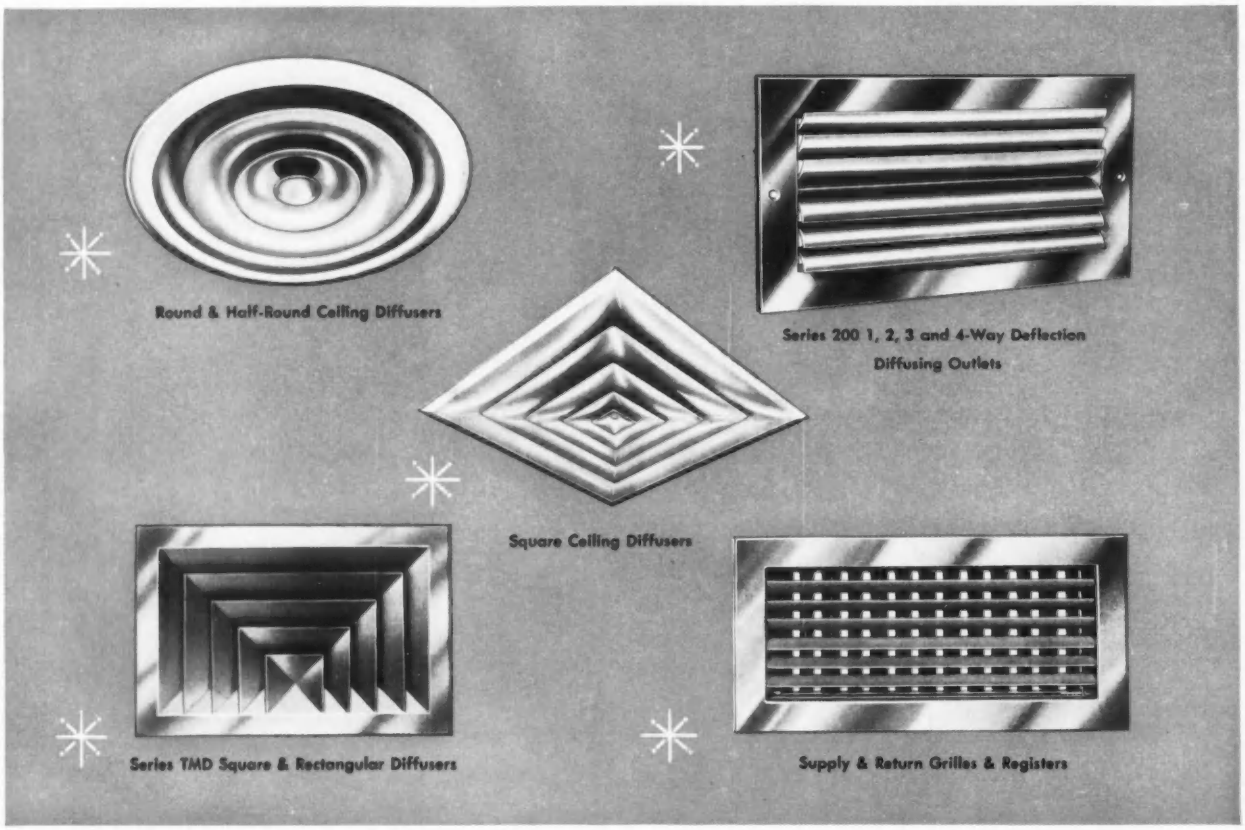
Holds full box of Kleenex 200's. Dispenses one tissue at a time. Mirror-chrome finish. Holes in back and side make it easy to fasten to studding.

For further details on how these attractive new dispensers can fit into your plans, see Sweet's 1960 Architectural File Cat., Section 19a/Ki. or write to Kimberly-Clark Corp., Dept. AR-50, Neenah, Wisconsin.

KOTEX and KLEENEX are trademarks of KIMBERLY-CLARK CORPORATION

KIMBERLY-CLARK CORPORATION NEENAH, WISCONSIN

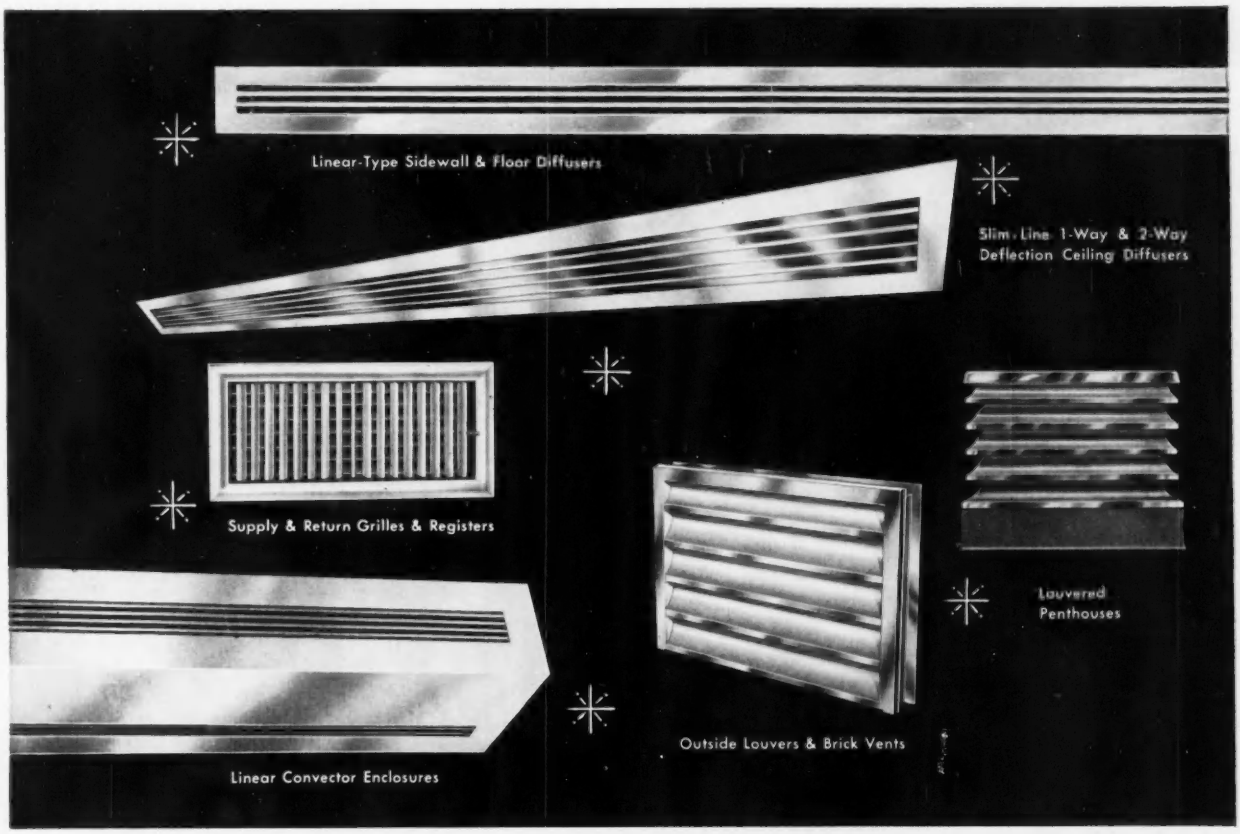
for outstanding design in the CONVENTIONAL . . .



specify the one reliable, complete source.....

Whether you want the best in *CONVENTIONAL* air diffusion equipment . . . or the *SUPERB* in extruded aluminum . . . you can get it at TITUS! For Titus has just made air conditioning history. *Never before has anyone . . . anywhere offered such a large, complete line of quality grilles, registers and diffusers.* You really benefit when you specify from ONE RELIABLE, COMPLETE SOURCE. One source means one responsibility . . . faster, accurate delivery of orders. And Titus' large, complete line *eliminates any need to compromise in product selection.* You can select the *exact* outlet to fit the job . . . YOUR GUARANTEE OF THE MOST EFFICIENT AIR DIFFUSION. Titus extruded aluminum diffusers are made of the very finest aluminum extrusions *from Titus' own extrusion presses.* Titus also *custom makes* extruded aluminum diffusers, grilles and louvers to fit *any* specification. For full details, write: *Titus Custom Design Engineering Dep't,* or contact your nearest Titus representative.

. . . . . or the ***UNUSUAL*** in fabulous aluminum



. . . . . TITUS

FREE LITERATURE . . . MAIL COUPON

TITUS MFG. CORP., WATERLOO, IOWA

Please send the following:

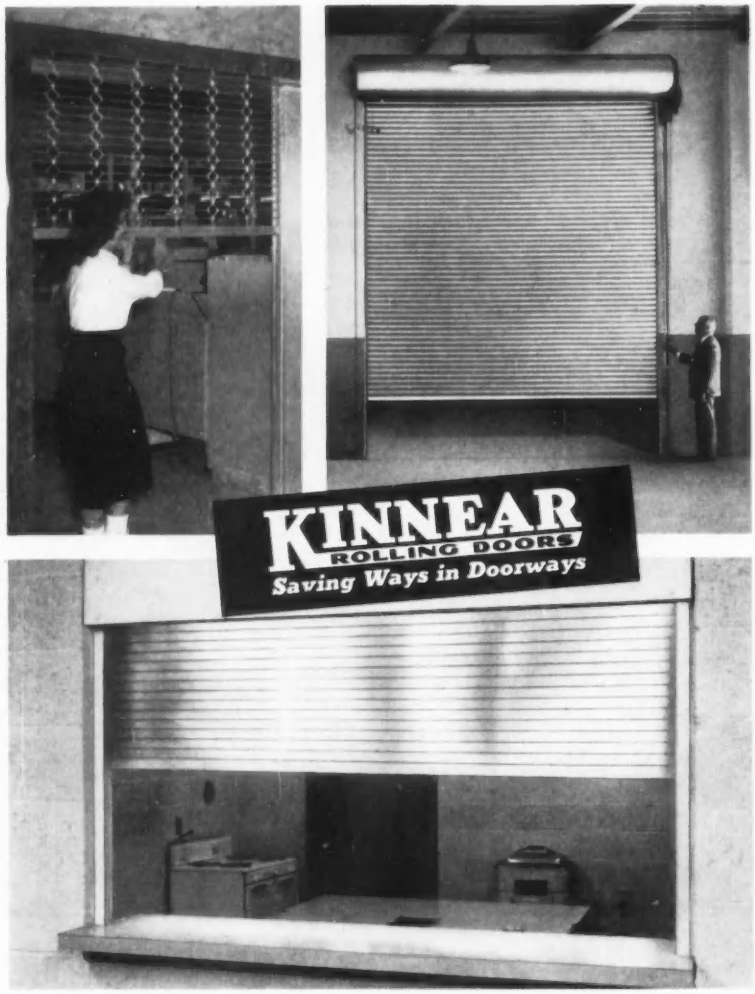
- ☐ Catalog on Titus Round, Half-Round and Square Ceiling Diffusers
- ☐ Catalog on Titus Series TMD Diffusers
- ☐ Catalog on Titus Series 200 Grilles
- ☐ Catalog on Titus Supply Grilles & Registers
- ☐ Portfolio of literature on Titus EAGle-Line extruded aluminum diffusers

NAME _____

COMPANY _____

ADDRESS _____

CITY _____ STATE _____



Doorway, Counter, and "Area" Closures for Every School Need

You'll want the many advantages of Kinnear Rolling Counter Shutters — for openings at food-service and locker-room counters . . . for pass-through openings where shop tools or lab equipment is kept . . . for ticket, check-room and refreshment booths in auditoriums, or any similar need.

The aluminum or steel curtain coils compactly above the opening, wastes no usable space, stays completely out of the way, out of sight!

When closed, they block all access through the openings. The neat, flat surface of Kinnear's modern "midget" counter-shutter slats blends with any decorative scheme, wall material or architectural treatment. Kinnear Rolling Shutters are built to fit any counter.

Kinnear Metal Rolling Doors offer the same space-saving, coiling upward action with maximum operating efficiency and protection for doorways of any size.

Kinnear Rolling Grilles (of steel or aluminum) offer the same coiling upward action in an "openwork" curtain of bars and links that block passage without cutting off light, air, or vision. The ideal "barrier" at corridors and entrances where sections of a room or building may periodically want to be cut off from use.

Write for complete catalog!

The KINNEAR Manufacturing Company

FACTORIES: 1860-80 Fields Ave., Columbus 16, Ohio; 1742 Yosemite Ave., San Francisco 24, Calif.

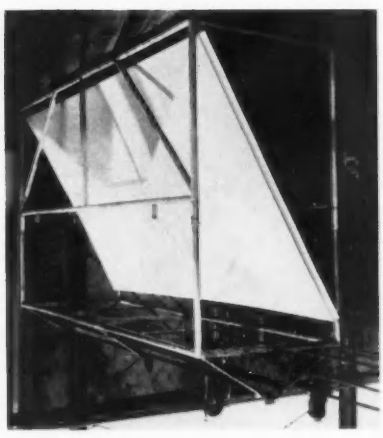
Offices and Agents in All Principal Cities

Product Reports



Headed Concrete Anchor

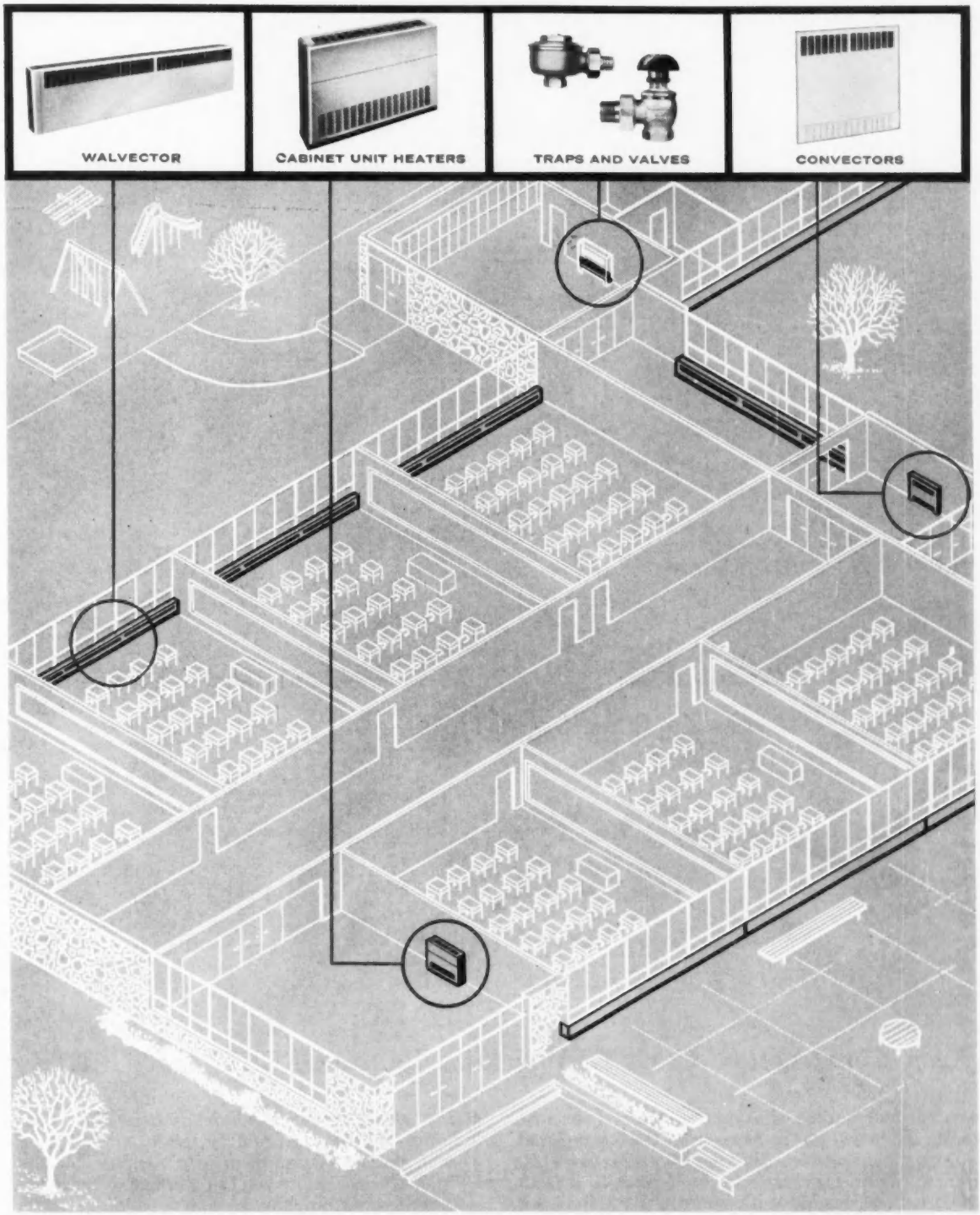
A new type of headed concrete anchor is said to have far greater holding power than conventional shapes so that smaller sizes may be specified to achieve the same results gained with larger sizes of other types. Its increased holding power is attributed to the upset head, which keeps the anchor in place even if the bond is broken between the anchor and the concrete. Available in five sizes for applications ranging from light to heavy duty, the Type H-4 anchor can be quickly end welded either to flat surfaces or in the fillets of angles as shown above. *Nelson Stud Welding Div., Gregory Industries, Inc., Lorain, Ohio*



Chemical Milling of Metal Panels

Pattern and cuts in metal as well as decorative finishes can be achieved on virtually any metal through a process called chemical milling, ac-

continued on page 276



WEBSTER SYSTEM FOR STEAM AND HOT WATER HEATING OF SCHOOLS, *Integrating classroom perimeter heating with time-proved Walvector, hallway heating with convectors, cabinet unit heaters in entranceways, traps and valves as required in piping. Ask your Websterman about these radiation products.*

WARREN WEBSTER & COMPANY, INC.

HEATING • COOLING

CAMDEN 5, NEW JERSEY



Department of State Building—Washington, D. C.
Owner: General Service Administration
Architects & Engineers: Graham, Anderson, Probst & White, Inc.—Chicago
Harley, Ellington & Day, Inc.—Detroit
Associate Architect: A. R. Clas—Washington, D. C.
Gen. Contractor: John McShain, Inc.—Philadelphia

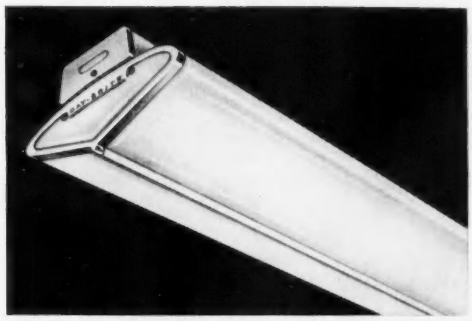
Keep Construction Costs DOWN with REINFORCED CONCRETE

Another outstanding example of reinforced concrete construction will be the new—soon to be completed—Department of State Building, Washington, D.C. Here the architects chose reinforced concrete flat slab construction because of its low cost. With the head room gained, architects were able to provide more stories without exceeding building heights of older buildings in the area, and to use to advantage a 31-foot grade variation to provide parking facilities for 700 vehicles. Before you begin design or construction of any new building, be sure to investigate this more economical and flexible building method.

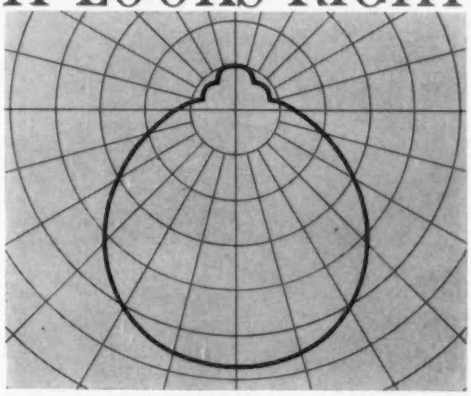
CONCRETE REINFORCING STEEL INSTITUTE
CRSI
FOUNDED 1924

Concrete Reinforcing Steel Institute
38 South Dearborn Street, Chicago 3, Illinois

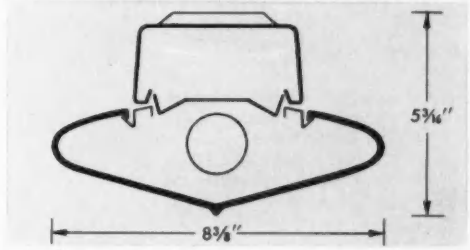
5-6



IT LOOKS RIGHT



IT LIGHTS RIGHT



IT'S MADE RIGHT WITH EVENGLO®

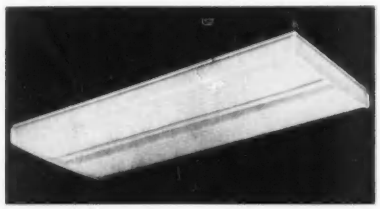
DAY-BRITE'S new Corralume lighting fixture has long, low, trim lines. It's available in 4 and 8 ft. lengths that are only 5 3/16" deep . . . ideal for long halls and corridors . . . **It looks right.** The wrap-around design gives well-balanced illumination; completely wipes out ceiling and side wall shadows . . . **It lights right.** The enclosure is extruded of EVENGLO polystyrene, a versatile Koppers plastic that can be molded or extruded in practically any size, shape, or color and is dimensionally stable. The plastic enclosure snaps into place without screws or fasteners; it can be easily removed or installed . . **It's made right.** For more information on EVENGLO polystyrene or for a list of manufacturers who use EVENGLO in fluorescent fixtures, write to Koppers Company, Inc., Plastics Division, Dept. AR-50, Pittsburgh 19, Pa. Offices in Principal Cities • In Canada: Dominion Anilines and Chemicals Ltd., Toronto, Ontario. **KOPPERS PLASTICS**

continued from page 272

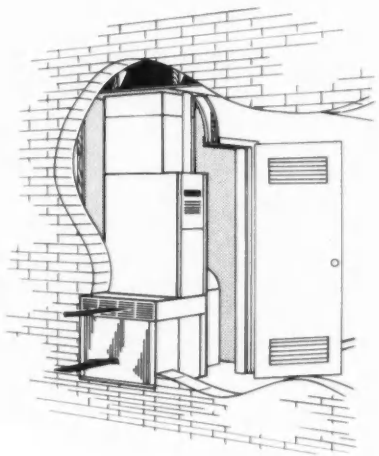
cording to a west coast concern. A recent application was to produce a satin-smooth finish on twenty-four 12- by 8-ft aluminum panels highlighting the facade of Gelson's Food Center in Encino, Calif. Architect was R. Leon Edgar. The milling company reports that one man can handle a number of parts at one time, offering economies over hand finishing. Parts can be formed into a complex shape and then chemically milled to desired finish. *United States Chemical Milling Corp., 1700 Rosecrans Ave., Manhattan Beach, Calif.*

Prismatic Fixture

A new luminaire line with acrylic, prismatic lenses for flush mounting is only $3\frac{13}{32}$ in. deep to the ceiling line. The *6000 Series* by Holophane has two lenses each 4 ft long which are held entirely without any visible frame and are separated along the center of the fixture by a 3-in. wide ballast chamber cover, recessed 1 in.



above the bottom of the lenses. Each enclosure is held on one side by a steel channel riveted directly to the plastic. On the other side, two 4-in. hinges provide simple relamping by a free-swinging attachment of lenses to fixture. *Holophane Co., Inc., 342 Madison Ave., New York 17, N. Y.*



Apartment House Air Conditioning

A heating-cooling package for apartments and small commercial applications includes a gas furnace, cooling coil and air-cooled condensing unit, all fitting within a 36 by 36 in. closet and requiring 89 in. headroom. The air handling face of the condensing unit extends through an outside wall and is flush with the surface. Trunk duct is taken off the side of the cooling coil cabinet. Return air can be brought back between floor joists or through grilles in closet walls. The unit provides a nominal two tons of cooling and 51,000 Btuh input of heating. Since design of the condensing unit permits intake and exhaust to be handled from the same side, the possibility of air shaft application is enhanced. In such a case, condenser supply and exhaust air is handled in separate air shafts which are a part of the building construction. *Lennox Industries, Inc., Marshalltown, Iowa*

more products on page 281

NEW!

Electrically-Operated Projection Screen Pre-engineered For Concealed Installation

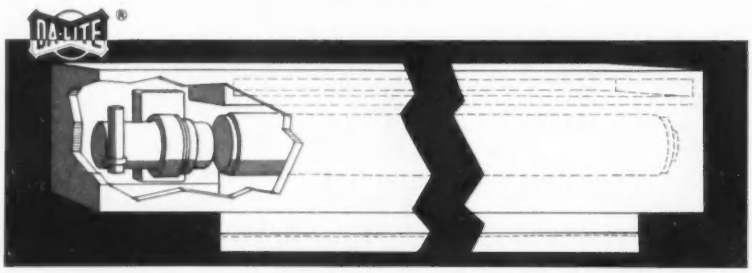




The most practical product an architect ever specified! The exclusive Da-Lite Electrol® projection screen—enclosed at the factory for simplified on-job installation. Screen may be installed in a concealed position—or mounted on wall and finished to match. Da-Lite Electrol is ready for use seconds after control button is touched.



Da-Lite's quality-controlled projection screens are your assurance of years of trouble-free service. For over half a century, Da-Lite has built a reputation as the finest in projection screens for theatres, auditoriums and conference rooms!



Electrol Screens feature Da-Lite's famous White Magic glass-beaded screen fabric. Permits big-picture vision . . . with beautiful clarity and color. Specially-engineered electric motors are totally sealed, require no further lubrication. Screens are completely assembled at factory. Control switch and plate furnished.

WRITE TODAY!
New technical bulletin gives complete details on operation and installation of electrically-operated Da-Lite projection screens and portable tripod models.

Da-Lite®
SCREEN COMPANY, INC., WARSAW, INDIANA

Gymnasium at Macopin Elementary School, West Milford, N. J. Architects: S. E. Greydanus and Son, Paterson, N. J. Contractor: Thomas Construction Company, Paterson, N. J.

Space provided: thirteen classrooms; auditorium; full size gymnasium with kitchen and storage; library and storage room; science room; home economics unit; art room; woodworking shop; band room; boys' and girls' locker and shower rooms; administrative offices; guidance office; clinic; thirteen lavatory and toilet rooms. *Structural framing:* glulam timber beams resting on steel columns. *Exterior walls:* Fenestra window walls for classrooms; brick over concrete block backup for gym and auditorium. *Interior walls:* concrete blocks; glazed blocks wainscot high in corridors; ceramic tile in shower and toilet rooms. *Floors:* asphalt tile over concrete slab. Ceramic tile in toilet rooms. *Roof:* 5-ply built-up slag roof over Tim-Deck. *Heating:* hot water system employing Nesbitt unit ventilators controlled by outside thermostat. *Lighting:* fluorescent throughout except gymnasium and special spot lighting in auditorium. *Area:* 56,000 square feet. *Cost:* $17.29 a square foot.



In natural finish, Glulam beams and Tim-Deck by Timber Structures, Inc.

provide a striking appearance for this modern,

flexible school that is now being considered for expansion

into a 1200-pupil senior high school.

TIMBER STRUCTURES, INC.

P. O. BOX 3782, PORTLAND 8, OREGON

Division offices in Ramsey, N. J.; Schiller Park, Illinois; Dallas, Texas

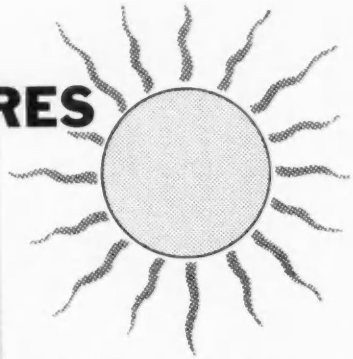
DISTRICT REPRESENTATIVES IN MAJOR CITIES THROUGHOUT THE UNITED STATES

Affiliated Company: TIMBER STRUCTURES, INC. OF CALIFORNIA, Richmond

MEMBER A.I.T.C. AND PRODUCERS' COUNCIL

NOW... SUN CONTROL with NEO-RAY METAL LOUVRES





NEO-RAY Sun Control Louvres are available in all cell sizes, all modules, and various cut-off angles. Can also be furnished for vertically mounted exterior curtain-wall shielding.

GEORGIA CENTER
FOR CONTINUING EDUCATION
UNIVERSITY OF GEORGIA
ATHENS, GEORGIA

Architects:
STEVENS & WILKINSON
ATLANTA, GA.

Contractors:
DeGIVE, BUNHAM & O'NEILL, Inc.
ATLANTA, GA.

Consulting Architect:
LEWIS J. SARVIS
BATTLE CREEK, MICH.

Here is a building that is a citation winner in the Progressive Architecture Award Program. It has been described as an extraordinarily self-contained structure complete in every respect with a functional design as well as one of exceptional beauty.

Providing a striking effect on the exterior portion of the hotel section are "NEO-RAY" LOUVRED SUN SHIELDS over each window on the south side. These permanent fixtures filter the sun rays without impeding the circulation of air.

WRITE FOR FREE SAMPLE KIT

NEW! SC MINI-CELL ALUMINUM LOUVRE

- . . . ½" x ½" x ½" cells.
- . . . exclusive CEL-LOK PROCESS.
- . . . baked white enamel.
- . . . or Ripple-Tex® low brightness. the louvre with the appearance of a lens.

See our catalog in Sweet's Architectural File Sec. 32a/NE

IN THE SOUTH:
See our permanent display at
ARCHITECTS & ENGINEERS INSTITUTE
230 Spring St., Atlanta, Ga.

ON THE WEST COAST:
GRUEN LIGHTING
8336 W. 3rd St., Los Angeles 48, Calif.

SPECIAL LOUVRE DESIGNS?

Neo-Ray is recognized as the pioneer in the development and manufacture of louvred ceilings . . . with years of louvred ceiling experience. Let the "know-how" of our engineering department assist you. No obligation, of course.

Send for the following literature:
. . . New Product Bulletin N-58 (Mini-Cell)
. . . Sweet's Architectural File for 1960
. . . Louvred Ceiling Catalog No. 544

MANUFACTURERS OF LIGHTING FIXTURES INCLUDING:



LOUVRED CEILINGS • ROTO-STRIP • MODULARS • TROFFERS

NEO-RAY PRODUCTS, Inc.
315 East 22nd St. • New York 10, N. Y.

JANITROL

presents the new and versatile

52 series

AIR-COOLED
AIR-CONDITIONER



A PRACTICAL APPROACH TO ECONOMICAL,
HIGH EFFICIENCY COOLING FOR COMMERCIAL—
INDUSTRIAL BUILDINGS . . .

advance designed for the sixties

NEW JANITROL 52 SERIES AIR COOLED AIR CONDITIONERS

Outwardly beautiful and pleasing to the eye, inwardly rugged and powerful, new Janitrol 52 Series units combine years-ahead styling and cooling performance . . . provide truly low-cost central cooling with matchless reliability and performance.



JANITROL'S ADVANCED DESIGN . . . A SAFEGUARD AGAINST PRODUCT OBSOLESCENCE!

The weatherproof, high-efficiency 52 Series condensing unit, containing all moving refrigeration parts, installs outside. Available in six basic capacities from 22,200 to 110,200 btu/hr.

Full A.R.I. certification: Every Janitrol unit meets all standards of Air Conditioning and Refrigeration Institute.

STANDARDS OF EXCELLENCE . . .

In Performance—large condensing coils assure efficient operation with outdoor temperatures up to 125°F!

In Styling—crisp, modern lines distinguish the new 52 Series. Cabinets are finished in durable, automotive-type enamel.

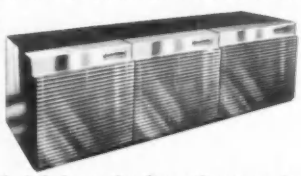
In Economy—The top-mounted fan bathes condensing coils in a jet stream of cooling air to raise efficiency and reduce current usage. Coils are shaded from the sun by louvers.

In Quietness—The powerful compressor is mounted on rubber-cushioned, resilient springs . . . cabinet is heated with special sound-deadening material.

In Safety—Complete overload and weather protection is provided. Enclosing grilles thoroughly safeguard children and pets.

In Servicing Ease—all components are easily accessible. Service panels can be removed without effecting operation during service checks.

MULTIPLE COMBINATIONS PROVIDE ECONOMICAL, HIGH CAPACITY COOLING



Modular cabinet design and upflow exhaust permit compact, multi-unit installations. Only the grilled, air-intake side of the cabinet requires clearance.

Any desired number of Janitrol 52 Series units may be installed together, with zero clearance between, to provide a variety of higher capacity combinations from 120,000 to over 1,000,000 btu/hr. Only Janitrol offers custom-built capacities at standard model cost!

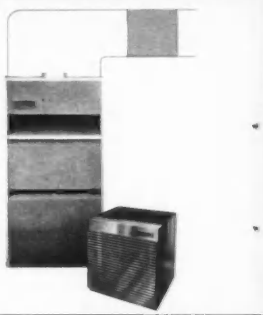
JANITROL year 'round conditioner

Combines quality gas heating and waterless cooling! Less than four sq. ft. of floor space needed for most installations. Features include famous Dura-Tube heat exchanger with 20-year warranty. Unique by-pass for correct air flow on heating or cooling cycle without adjustments. Powerful air-cooled 52 Series condensing unit. ADD-ON cooling—install for heating only, add cooling later.



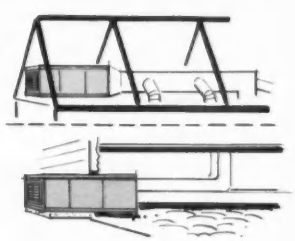
ADD-ON COOLING

Adapts most any warm air furnace for thrifty, efficient central cooling. Cooling coil mounts in duct, attractive, air-cooled 52 Series unit goes outside. Powerful, quiet performance with outside temperatures to 125°F. Easy to install.



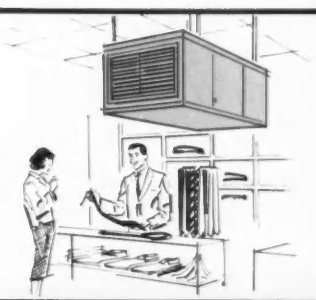
"J-LINE" self-contained conditioners

An economical solution for many cooling needs. One compact unit contains blower, compressor and coils. For use with ducts or as free discharge. Install through wall in crawl space, attic or other limited access locations.



BLOWER-COIL UNITS

Smartly styled cabinet contains cooling coil and blower for use as free discharge or with ducts. Units are attached to ceiling to save floor space. Very quiet and efficient!



GAS-FIRED DUCT FURNACES

For installation in a duct where the air is circulated by a separate blower. Especially adaptable for industrial heating applications in combination with cooling. 73 Series in six sizes from 50,000 to 225,000 btu/hr. 72 Series in sizes 200,000 and 300,000 btu/hr. may be combined to provide unlimited capacity range.



JANITROL® MFR MIDLAND-ROSS CORP.

HEATING AND AIR CONDITIONING

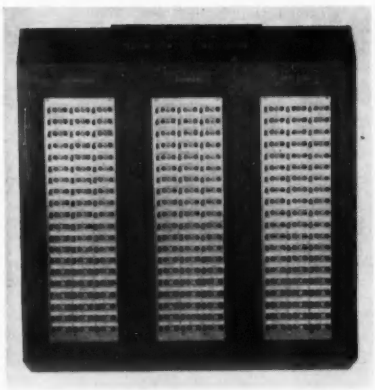
A DIVISION OF MIDLAND-ROSS CORP. • COLUMBUS 16, OHIO

IN CANADA: MOFFAT HEATING & AIR CONDITIONING DIVISION MOFFATS LTD., TORONTO 15

ALSO MAKERS OF SURFACE INDUSTRIAL FURNACES, KATHABAR HUMIDITY CONDITIONING, JANITROL RESIDENTIAL HEATING AND COOLING EQUIPMENT

Product Reports

Panic, Fire Protection
Bolts and mortise lock have been integrated into the automatic activating mechanism of twin panic bars on double swinging doors to meet the requirements of both panic protection and fire protection. Hardware for the new *Overly* doors was designed by Sargent. Underwriters' labels A through E have been awarded the doors, which have new channeling and framing to meet the rigid U-L tests and assure complete dependability of the actuating mechanism. Problem was this: Fire protection requires interior and exterior barrier to be securely fastened and capable of resisting near explosive forces of fires to limit spread of flame and smoke; yet doors must be opened quickly and without fail. *Overly Manufacturing Co., Greensburg, Pa.*



Room Status Indicator for Hotels
A new electronic method of room control enables the front office clerk, the cashier and the housekeeper to know instantly the status of every room in a hotel. Each of them has a control board equipped with a switch and three lights—red, yellow and green—for each room in the house. As the status of a room changes from occupied to "on change" to ready-to-rent, the person involved in the transaction records the room status by flicking a switch on his board, which lights up the appropriate signal on all the boards. The system is said to be easy to operate and virtually foolproof, is adaptable to the different requirements of any type of hotel, and can be quickly installed in a minimum of space. *American Communications Corp., 280 Broadway, New York, N. Y.*

more products on page 284



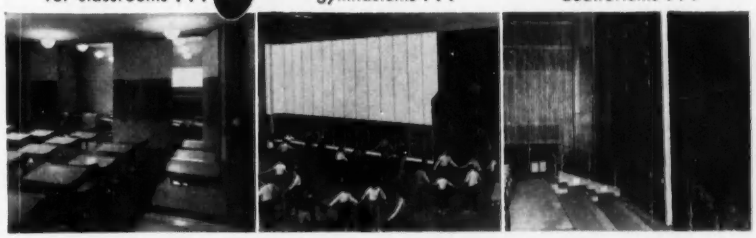
Photo above, Senior High School, Janesville, Wis. Law, Law, Potter & Nystrom, Architects.

R-W FOLDING PARTITIONS

...dollar for dollar—feature for feature—the finest product of this type on the market

Each R-W Folding Partition is the result of years of continuous research, engineering development and practical know-how. It is this experience that assures the quality, *rugged* strength, *dependable* operation and excellent sound-retarding qualities that is *inherent* in every R-W Folding Partition. Available in a type and size to meet your exact requirements . . . provides years of trouble-free, maintenance-free service. You can pay less . . . you can pay more . . . but you cannot buy more actual value for each dollar invested than with an R-W Folding Partition.

for classrooms . . . *gymnasiums . . .* *auditoriums . . .*



Grace McWayne School
Batavia, Illinois
Raymond A. Orput, Rockford, Architect

West Senior High School
Aurora, Illinois
Childs & Smith, Architects

University of Pittsburgh
Pittsburgh, Pennsylvania
Schmidt, Garden & Erickson, Architects

Write today for your free copy of Catalog No. 600.

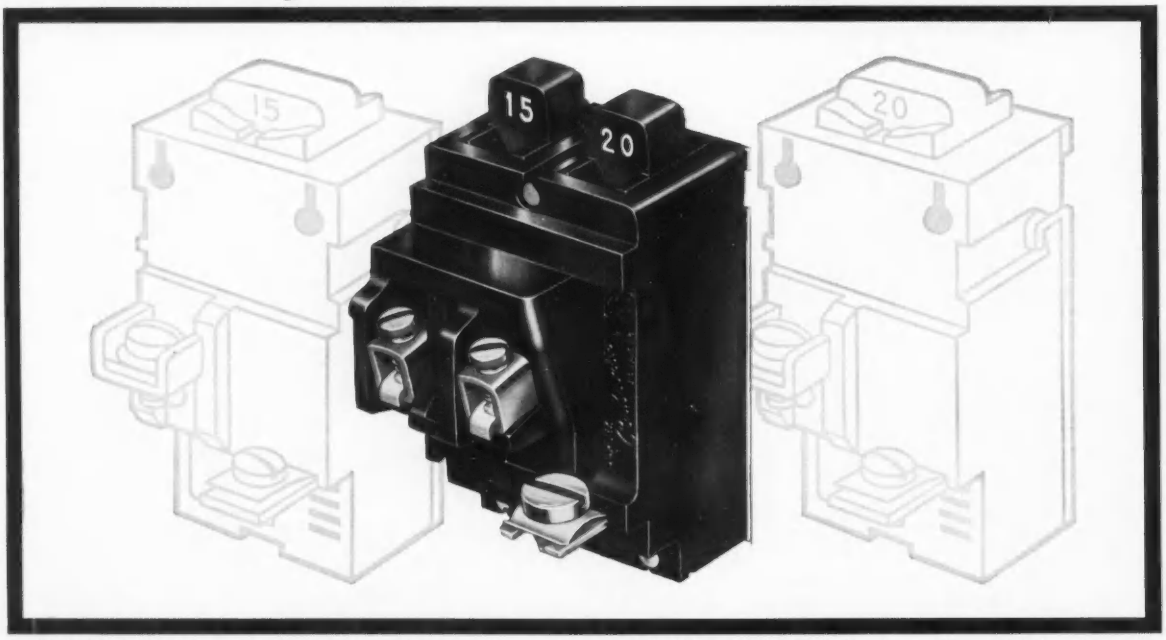
R W

Richards-Wilcox
MANUFACTURING COMPANY
FOLDING PARTITION DIVISION
116 W. THIRD ST. • AURORA, ILL. • Branches in all Principal Cities

BullDog's

NEW DUPLEX

The only space-saving breaker



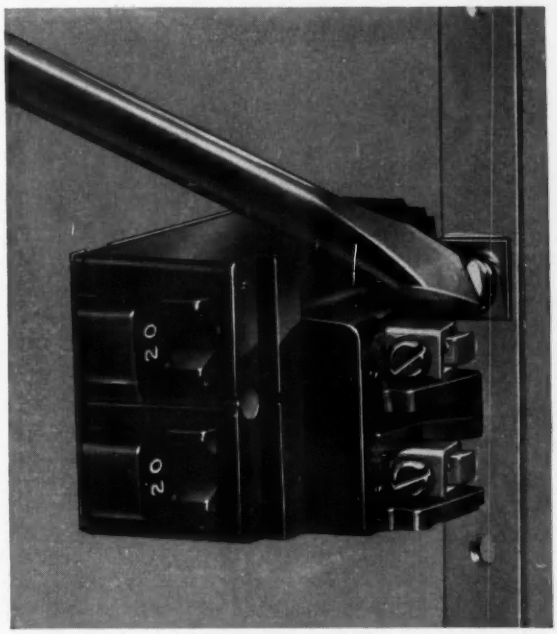
1. SPACESAVER. New Duplex Pushmatic® breaker puts two breakers in the space of one single breaker. You get more electrical circuit flexibility with smaller panels; and 15- and 20-amp capacity, in any combination.

2. DOUBLE PROTECTION. Duplex is the only 2-in-1 breaker that gives coil-magnetic short-circuit protection, as well as thermal overload protection, for each circuit. Provides identical, independent coil protection in each pole.

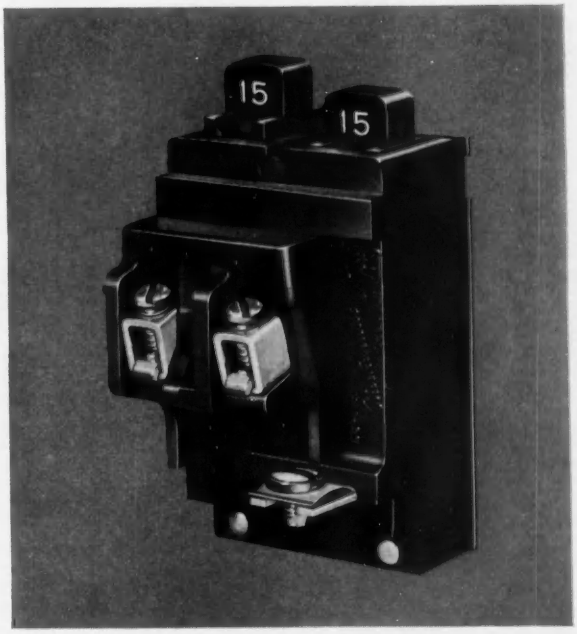


PUSHMATIC!

with coil-magnetic protection!



3. ONE BOLTED CONNECTION. Duplex provides a single positive bolted connection to bus bar. Electrical contact is under constant pressure, won't work loose, won't overheat. Installation is quick and easy.



4. PUSHBUTTON CONVENIENCE. Only Duplex Pushmatic has pushbutton convenience. Pushbutton pops up, can be identified instantly by sight or touch. You reset it with a push of the finger. Simple, fast, foolproof!

BullDog Electric Products Division, I-T-E Circuit Breaker Company,
Box 177, Detroit 32, Michigan. In Canada: 80 Clayson Rd., Toronto, Ont.
Export Division: 13 East 40th St., New York 16, N. Y.

BULLDOG ELECTRIC PRODUCTS DIVISION
I-T-E CIRCUIT BREAKER COMPANY

Mineral Wool Standards
Under new standards developed by the National Mineral Wool Association, the actual insulating value of any mineral wool product in place is to be indicated by an "R" (resistance) number stamped on the batt or blanket. The higher the "R" number, the more effective is the particular insulation. One reason for the new standards, the Association reports, is to clear up confusion that might exist with insulations specified in various terms such as thickness, density or conductivity. Since there are various manufacturing processes extant, a uniform designation based on performance of insulation in place gives the most comparable basis for evaluation. There are three standards for various levels of effectiveness: The All-Weather Comfort Standard recommended by the electrical industry; and National Mineral Wool Association recommendations for (1) "Reasonable Comfort and Economy" and (2) "Minimum Acceptable Comfort." *National Mineral Wool Association, 1270 Sixth Ave., New York 20, N. Y.*



HOTEL FOUNTAINEBLEAU
Miami Beach, Florida. Morris Lapidus, Architect
Stewart Tile Co., Tile Contractors

Revolutionary New Adhesive Mortar Reduces Material and Labor Costs...Cuts Wall Weight up to 60%!

Tile-Mate* is a self-curing, thin-bed mortar adhesive which permits installation of ceramic tile or glass mosaics directly on dry back-up materials. Applied over dry wall board, foam styrene, concrete block or any masonry surface, it eliminates expensive metal lath, provides greater shear and bonding strength than other mortars, in a bed only $\frac{3}{32}$" to $\frac{1}{8}$" thick. Tile-Mate mixes with water at the job site. Tile is set and grouted dry. Non-combustible, non-toxic, frost-proof. Use indoors or outdoors ... for swimming pools, too. Write for catalog.

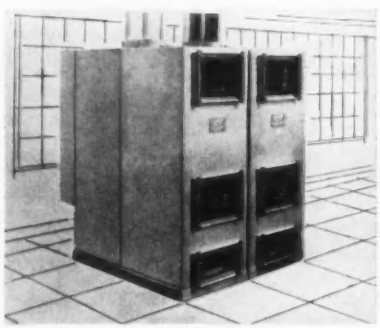
* Mf'd. under license issued by The Tile Council of America.

13c/Upc

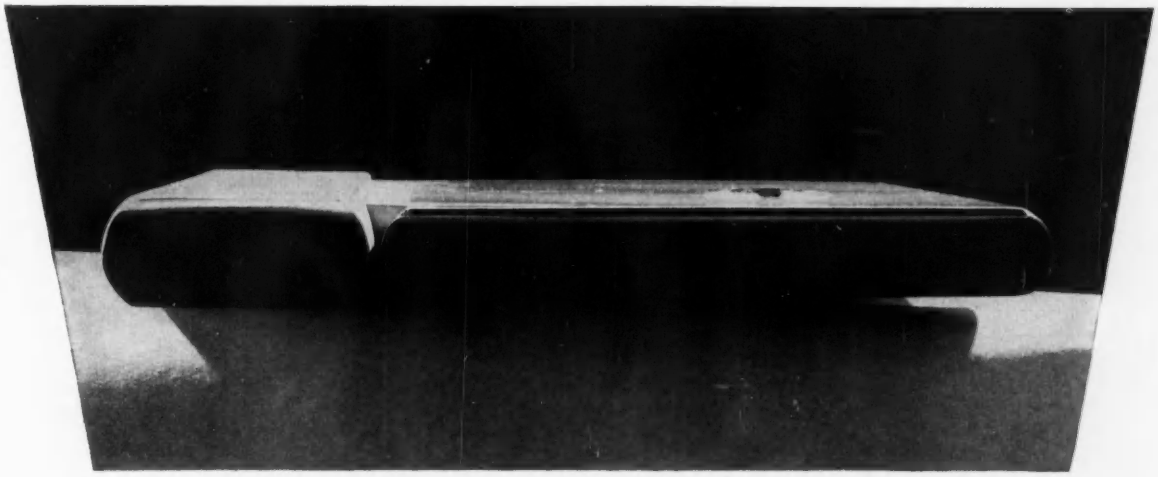
THE UPCO CO.
4805 LEXINGTON AVENUE • CLEVELAND 3, OHIO
Manufacturers of Hydroment Joint Filler

In the West, HYDROMENT, INC., 438 Brightwood Ave., Monterey Park, Calif.

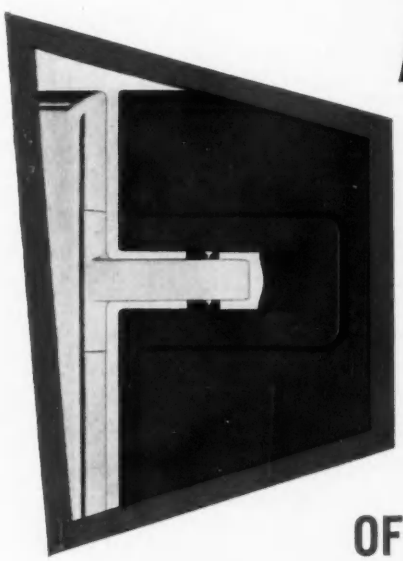
"Duty-Rated" Entrance Doors
A new line of doors "duty-rated" to meet commercial and institutional requirements consists of four aluminum doors and one stainless steel door which vary from slim, high-style designs to a massive model constructed to meet strict code specifications. Each of the five models can be purchased as a complete entrance package consisting of the door, frame, hardware, and a concealed overhead closer or automatic operator. One model, *Style Leader 125*, features extremely thin stiles, gray beveled stops that accentuate the slim lines, and cross members that enable the door to absorb heavy punishment. It is weather-stripped on all four sides, and has a positive top and bottom locking device operated from a single center-stile lock. *Kawneer Co., Niles, Mich.*



High-Efficiency Air Cleaner
The *Yerzley Scrubber*, a new air pollution control device named for its inventor, Dr. Felix L. Yerzley, obtains high absorption efficiencies through the use of a unique principle of "interphase reaction." Each unit is composed of two shallow reaction beds which divide the total chamber into three plenums. Liquid supplied at the top of the scrubber flows downward through the flooded reaction beds, while gas or air to be processed enters at the bottom of the scrubber and rises in the form of bubbles through the liquid contained within the minute spaces between the packed particles in the two reaction beds. Industrial applications of the scrubber include the removal from air of fumes from acids and other chemicals, hot grease vapors, and fine dust. *Air Pollution Control Div., John Wood Co., Essex Bldg., Bernardsville, N. J.*

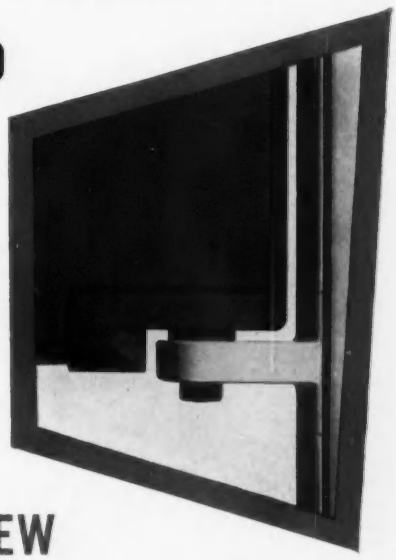


IN THIS PICTURE OF WHAT YOU CANNOT SEE

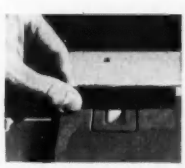


ARE DRAMATIZED

THE *Beauty* AND THE ECONOMY



OF *Sanymetal's* NEW RECESSED DOOR HINGE AND INTEGRAL BRACKETS



You see *nothing* protruding from the absolutely flush surface of pilasters and doors on Sanymetal Toilet Compartments. This advanced design is more attractive than ever before, and it saves money. It saves installer's time, because brackets are factory-assembled, for lower in-place cost. It saves maintenance, because nothing sticks out to catch dirt or slow up cleaning. Sanymetal *quality* costs less installed, much less in the long run.



NAMEPLATE IDENTIFIES EVERY COMPARTMENT

Sanymetal®

world's leading producer of toilet partitions

1689 Urbana Road, Cleveland 12, Ohio



Your professional recommendation is backed by **Newsweek** advertisements explaining Sanymetal economy to owners, users.

2 ways to lick sun **heat** and **glare!**



THE TWO MEN, shown on the next page, work in new offices in different buildings. Both work close to large window areas, and are more comfortable than they've ever been in an office before.

THE OFFICE on the left is exposed to sun heat. So the architect chose L·O·F Heat Absorbing Plate for the windows. This glass transmits less than 47% of the total solar radiation (heat) to keep interiors cooler.

The office on the right is also exposed to direct sun rays. The architect, in this case, chose *Parallel-O-Grey*®. This plate glass reduces sun heat, too, but it affords greater protection from sun glare because it transmits less than 45% of average daylight.

THESE TWO KINDS of glass reduce sun heat to lighten load on air-conditioning equipment. Both are polished *plate* to provide top-quality clarity. But each of these heat-resisting glasses has another individual characteristic:

HEAT ABSORBING PLATE has a pleasing pale blue-green color that makes a room *look* cooler.

PARALLEL-O-GREY has a neutral grey color. Colors seen through it remain essentially unchanged . . . tones are only subdued.

Wherever you want to make tenants more comfortable . . . wherever you want to reduce cost of air-conditioning equipment and operation . . . consider using one or the other of these special kinds of L·O·F plate glass.

Both products are also available as the outer pane in *Thermopane*® insulating glass units to further reduce load on air-conditioning equipment and to save heat in winter.

For additional information, call your L·O·F distributor or dealer (listed under "Glass" in the Yellow Pages). Or write to Libbey·Owens·Ford Glass Company, 811 Madison Avenue, Toledo 3, Ohio.



Heat Absorbing Plate Glass as the outer pane of *Thermopane* adds year-round comfort for tenants at 1600 Madison Avenue, Toledo, Ohio. Architects: Bellman, Gillett & Richards, Toledo.

PARALLEL-O-GREY Plate Glass reduces sun heat and glare in the East Ohio Building, built by Tishman Realty & Construction Co., Inc. in Cleveland, Ohio. Architects: Emery Roth & Sons, New York.

SOLAR HEAT TRANSMISSION	
¼" Regular Plate Glass	79.9%
¼" Heat Absorbing Plate	46.3%
¼" Parallel-O-Grey	46.6%

AVERAGE DAYLIGHT TRANSMISSION	
¼" Regular Plate Glass	89.1%
¼" Heat Absorbing Plate	74.7%
¼" Parallel-O-Grey	44.2%

LOF GLASS

LIBBEY·OWENS·FORD *a Great Name in Glass*

TOLEDO 3, OHIO

MET-L-WOOD

METAL BONDED TO PLYWOOD



DUCT and RISER ENCLOSURES

...faster, cleaner installation

...lasting finished beauty

...complete accessibility

Installing Met-L-Wood riser enclosures, air ducts, convector covers and paneling benefits everyone connected with the job:

Architects and contractors plan on substantial installation time savings and know that smooth, uniform Met-L-Wood needs only paint to finish after installation.

Building management not only gets a clean, durable installation, fast; but is also assured of low-cost accessibility to pipes and other equipment without enclosure replacement expense.

Met-L-Wood units are pre-formed, ready to install with minimum labor. When finished, Met-L-Wood sections match perfectly with conventional walls and ceilings.

Whether you plan new construction or remodeling, write for literature now and learn all the advantages and economies you gain with Met-L-Wood.



MET-L-WOOD®
CORPORATION

6755 W. 65th Street
Chicago 38, Illinois

Office Literature

continued from page 236

Honorable Mention

A NEW DIRECTION IN SOUND CONTROL, Arketex Ceramic Corporation, Agency: Keller-Crescent Company; THE SANDWICH WALL STORY, Gregory Industries, Inc., Nelson Stud Welding Div.; DOOR CLOSERS, LCN Closers, Inc., Agency: D. K. Morrison; THE HYDRONIC HOME, Bell & Gossett Company, Agency: Perrin-Paus; GEORGIA PACIFIC RELEASES, Georgia-Pacific Corp.; ARCHITECTURAL PORCELAIN COVERS ALL THE BASES, Davidson Enamel Products, Inc., Agency: Clark & Bobertz, Inc:; CERAMIC SOLAR SCREEN, Gladding, McBean & Company, Agency: Hixson-Jorgensen, Inc.; FOR NON-RESIDENTIAL BUILDINGS, Rolscreen Company, Agency: L. W. Ramsey Advertising Agency; LIGHT STEEL FRAMING, Bethlehem Pacific Coast Steel Company, Agency: Hazard Advertising Company, Inc.

CLASS IV

Space advertising directed primarily to the architect

Certificate of Exceptional Merit

VINYL-CORK & CORLON TILE, Armstrong Cork Company

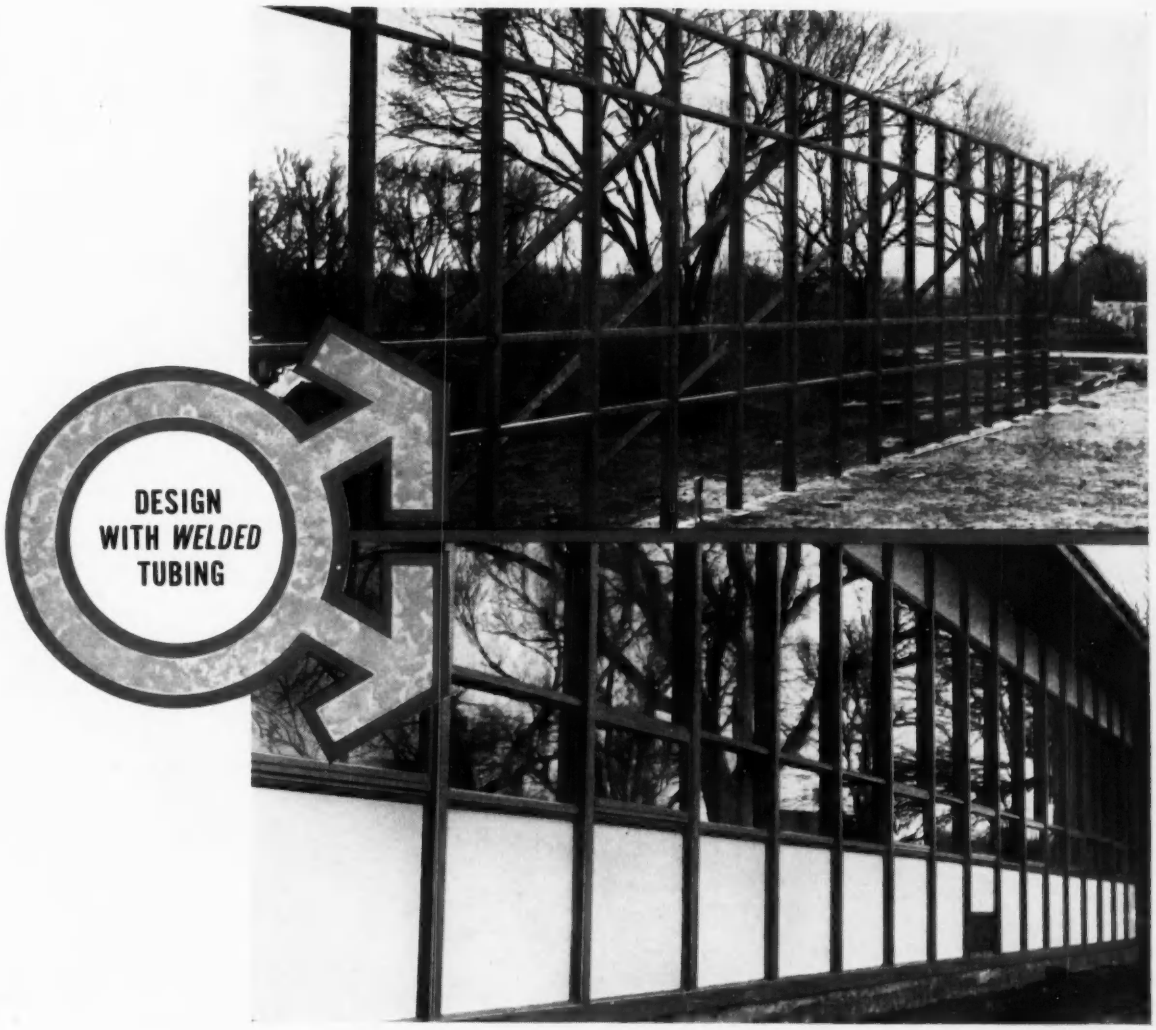
Certificate of Merit

COLOR & FORM WITH PORCELAIN ENAMEL WALLS, Armco Steel Corporation; VINALUX VINYL ASBESTOS TILE, Azrock Floor Products Division, Uvalde Rock Asphalt Company; KENTILE FLOORS, Kentile, Inc., Agency: Benton & Bowles; HAUSERMAN MOVABLE WALLS, The E. F. Hauserman Company, Agency: Meldrum & Fewsmith; BETHLEHEM STEEL, Bethlehem Steel Company, Agency: Hazard Advertising Company, Inc., FORMICA, Formica Corp., Agency: Perry-Brown, Inc.

Honorable Mention

NEW ALCOA ALUMALURE, Aluminum Company of America, Agency: Fuller & Smith & Ross, Inc.; BLOCK & PLANK FLOORS, E. L. Bruce Company, Agency: Greenhaw & Rush, Inc.; ONLY GLASS DOES IT SO WELL, Corning Glass Works, Agency: The Rumrill Co.; ARCHITECTURE SETS MOOD FOR CREATIVE THINKING, Libbey-Owens-Ford Glass Company, Agency: Fuller & Smith & Ross, Inc.; TOILET COMPARTMENTS, Sanymetal Products Company, Inc., Agency: Clark & Bobertz, Inc.; VARIOUS USES OF REDWOOD, California Redwood Association; CERAMIC TILE BRINGS NEW BEAUTY, American-Olean Tile Company, Agency: Arndt, Preston, Chapin, Lamb & Keen

more literature on page 292



LC-605

How WELDED STEEL TUBING

"Made the School" for Altoona, Kansas

How to slash costs without reducing quality—for the schools we *must have* today? Like many another school district across the country, Altoona, Kansas found the answer in *welded steel tubing* for new high school wall construction. ● With square and rectangular tubing, the same amount of space was achieved as with conventional framing. Walls went up faster, thanks to shop-built sections up to 28 ft long by 11 ft high. Besides framing the window-wall, the tubular members support structurally the wall and roof system. ● Costs? 80¢ per square foot of building for *entire* installed wall, insulated, paneled, glazed and caulked! Write today for data-filled Bulletin 8591, free on request.

Formed Steel Tube Institute, Inc.

1604 HANNA BUILDING, CLEVELAND 15, OHIO

• Armco Steel Corp. • The Babcock & Wilcox Co., Tubular Products Div. • The Carpenter Steel Co., Alloy Tube Div. • Clayton Mark & Co. • Damascus Tube Co. • Jones & Laughlin Steel Corp., Electricweld Tube Div. • National Tube Div., United States Steel Corp. • Ohio Seamless Tube Div. of Copperweld Steel Co. • Republic Steel Corp., Steel and Tubes Div. • Revere Copper and Brass Inc., Rome Manufacturing Company Div. • Sawhill Tubular Products, Inc. • Southeastern Metals Co. • The Standard Tube Co. • Superior Tube Co. • Trent Tube Co., Subs. Crucible Steel Co. of America • Union Steel Corp. • Van Huffel Tube Corp. • Wall Tube & Metal Products Co.

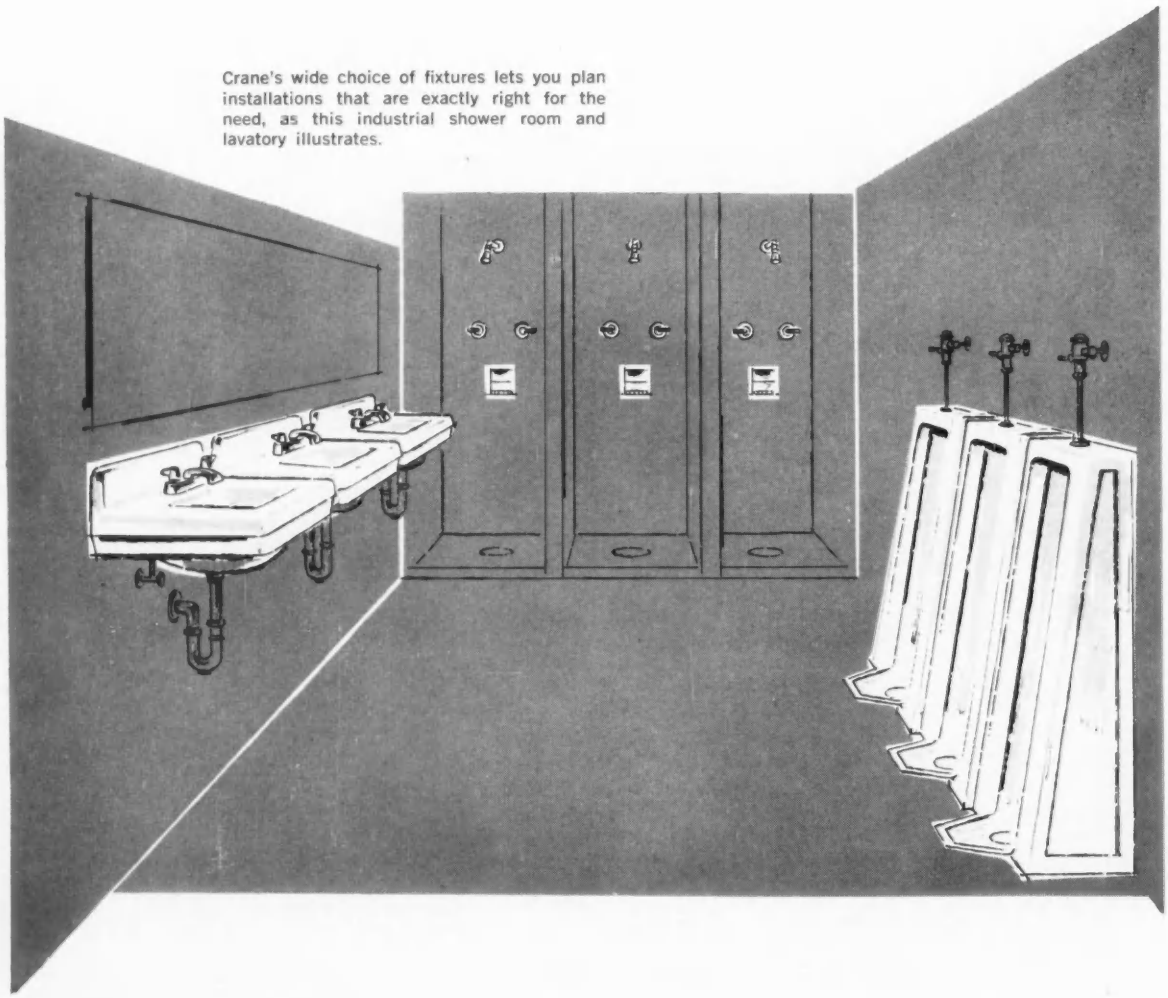
Design proof

into your commercial buildings

at no added cost...

with Crane plumbing

Crane's wide choice of fixtures lets you plan installations that are exactly right for the need, as this industrial shower room and lavatory illustrates.



of quality

When you specify plumbing for commercial buildings, there are two sound reasons for choosing Crane.

1 Crane offers the functional beauty you want and Crane has the reputation for quality among the general public. Crane, therefore, is visible *proof of quality* in commercial buildings . . . and it costs no more.

2 Crane offers the most extensive line of plumbing for public and institutional use. There is a Crane fixture for almost every specialized use. It's engineered to last—even under hard use and maintenance. Cost of owning Crane is extremely low.

When you specify plumbing, you enhance your design with Crane. For answers to questions, ask your Crane representative or your distributor. He will be delighted to assist you every way possible to achieve plumbing installations that are up to your professional standards.



This layout shows a washroom where everything is off the floor for easy care and complete sanitation. Crane plumbing for commercial use is made to withstand heavy service, constant cleansing.

CRANE®

proof of quality—at no extra cost

Plumbing-Heating-Air Conditioning Group, P. O. Box 780, Johnstown, Pennsylvania

Valves • Electronic Controls • Piping • Plumbing • Heating • Air Conditioning



Office Literature

Spiral Pipe and Fittings
Gives specifications and physical properties of spiral lockseam pipe and fittings for high velocity air-handling systems and underslab heating ducts. 8 pp. *Spiral Pipe Div., United Sheet Metal Co., Inc., 540 S. Drexel Ave., Columbus 9, Ohio*

Area Floodlighting Made Easy
Gives quick reference guides for selecting incandescent or mercury floodlights, general purpose or heavy-duty types, and for determining the number of floodlights needed. Footcandle charts and installation diagrams are included, along with listings of floodlights and mounting accessories. Bulletin 2719, 16 pp. *Crouse-Hinds Co., Syracuse 1, N. Y.*

Lupton Windows
Presents complete illustrations, specifications, detail drawings and tables of sizes for each model in the *Lupton* line of aluminum and steel windows. 35 pp. *Michael Flynn Mfg. Co., 700 E. Godfrey Ave., Philadelphia 24, Pa.*

Hot Water for Industrial Plants
Provides sizing charts, specifications, installation data and diagrams, and a comparative fuel cost chart for industrial hot water heater installations. Manual CH-110, 100 pp. *Permaglas Div., A. O. Smith Corp., Kankakee, Ill.**

Architectural Aluminum
(A.I.A. 15-J) Presents complete technical and specification information on Reynolds structural shapes, extruded tubing, handrails, pipe rails, window sills, thresholds, bar and rod. Data on alloys of plain, embossed and colored sheet is also included. 24 pp. *Reynolds Metals Co., Dept. PRD-25, Richmond 18, Va.**

DWV Copper Tube
. . . and Solder-Type Fittings (A.I.A. 29-B-4) lists and gives engineering and application data on *Streamline* DWV pipe and fittings for drainage installations. Catalog D-459, 32 pp. *Mueller Brass Co., Port Huron, Mich.**

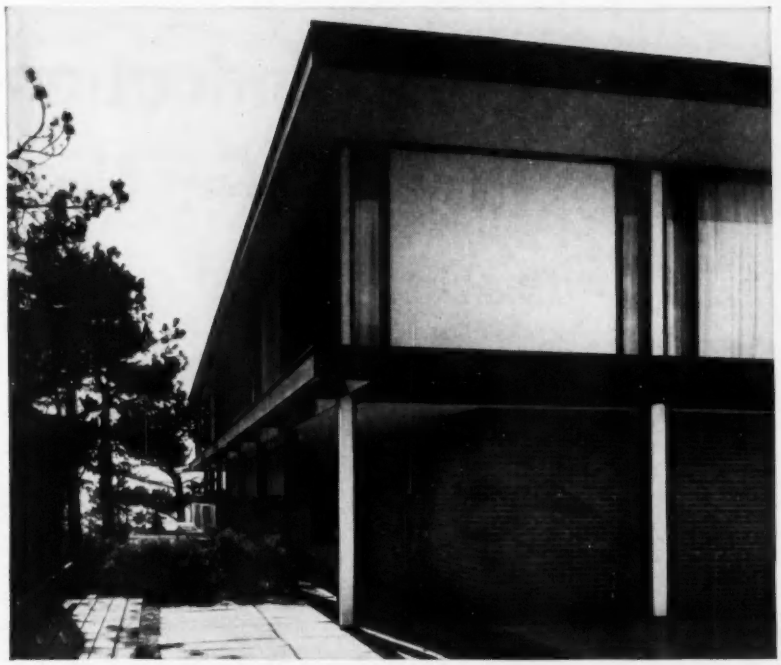
**Additional product information in Sweet's Architectural File*

more literature on page 296

THE SPECIFICATIONS TELL THE STORY!

HEATING SYSTEM OF FEATURE HOUSE IS EQUIPPED THROUGHOUT WITH B&G HOT WATER SPECIALTIES

Specifications read as follows:



The Carl Murchison residence, Provincetown, Mass.

Architects: The Architects Collaborative, Cambridge, Mass. Robert S. McMillan, Partner in charge.
Engineers: Reardon and Turner, Boston, Mass. **Contractors:** Anderson and Spinny, Inc., Hyannis, Mass.



CIRCULATING WATER PUMPS
They shall be Booster Pumps as manufactured by Bell & Gossett, Inc., or approved equal, in accordance with the following:

Designation	G.P.M.	Head	B&G No.	H. P.
No. 1	7.5	8 ft.	1¼″	1/12
No. 2	22.0	10 ft.	2″	1/6
No. 3	10.0	8 ft.	1½″	1/6



FLOW CONTROL VALVES
They shall be Type S Flo-Control Valves as manufactured by Bell & Gossett, Inc., or approved equal.



CONDENSER WATER PUMP
The condenser water circulating pump shall be integral, flange mounted, vertical type, all bronze fitted, with stainless steel shaft. The electric motor shall be of sufficient capacity to deliver 57 gpm against a total head of 70 ft.; it shall be suitable for operation at 208 volts, three-phase, 60 cycles and shall be provided with a magnetic starter having thermal overload protection. Bell & Gossett Series 1522 Pumps, bronze fitted, S.S. shaft 2″.



PRESSURE REDUCING VALVE
Furnish and install on the cold water supply to the boiler, one pressure reducing valve, No. 12, as manufactured by Bell & Gossett or approved equal.



BOILER RELIEF VALVE
Shall be Model 750, ASME Code, Relief Valve as manufactured by Bell & Gossett, Inc. or approved equal. Valve discharge connection shall be individually piped full size to 6″ above the floor.



BOILER FITTING
Provide Model ABF-2½″ Airtrol Boiler Fitting as manufactured by Bell & Gossett or approved equal.

The Carl Murchison home, Provincetown, Mass., features an array of the most modern comforts and conveniences... among them a forced hot water system completely equipped with B&G *Hydro-Flo* hot water heating specialties. In a home in which nothing but the finest equipment received consideration, the selection of B&G equipment speaks for itself.

On all the equipment specified, the B&G emblem is a warranty of quality and outstanding performance. The pumps, for example, are noted not only for long-lived dependability but for *quiet* operation. In addition, the owner has the protection of a single manufacturer's guarantee on all the specialties in the system.

Send for catalog of B&G Hydro-Flo Products and full color booklet on the B&G Hydro-Flo System

Hydro-Flo® SYSTEM

BELL & GOSSETT
COMPANY
Dept. GE-32, Morton Grove, Ill.
Canadian Licensees: S.A. Armstrong, Ltd., 1400 O'Connor Drive, Toronto 16, Ontario



This new Carrier Bypass Induction Weathermaster Unit

with self-contained controls

cuts costs 30%

UP TO NOW Induction-type room terminals for high-velocity air conditioning systems have been automatically controlled by a valve that regulated the flow of water through the coil. The valve and its thermostatic auxiliaries were costly. In addition, it was necessary to select and order the control assembly and the room unit separately. They were installed separately at the job site. All this meant extra design time, extra installation labor, extra installed cost.

NOW Carrier has developed a new 36R Weathermaster* Unit with self-contained automatic control that eliminates the water valve. The new terminal units are delivered to the job site complete, ready for installation. They require no pneumatic or electrical connections. They save design time and installation labor. And they cut installed cost of the unit and its control as much as 30%. For complete details write to Machinery and Systems Division, Carrier Corporation, Syracuse 1, New York. In Canada: Carrier Engineering Ltd., Toronto.

* Reg. U.S. Pat. Off.



The new Carrier 36R Weathermaster Unit with built-in automatic control makes use of the well-known bypass principle. Simple and reliable, it provides the same control versatility as other methods. The units are available with cabinets or for furred-in applications.

MORE PROOF OF
BETTER AIR CONDITIONING FOR EVERYBODY EVERYWHERE

Carrier



EXCLUSIVE NEW

RAYNOR *Garage-Aire*



Where Family Fun Begins...

Relaxing in the spacious Raynor Garage-Aire soon becomes a daily habit that is enjoyed by the whole family.

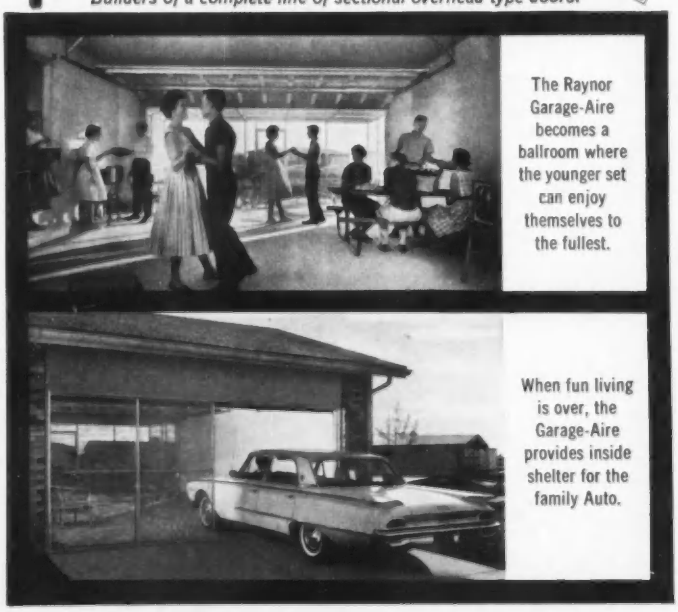
everyone enjoys the RAYNOR GARAGE-AIRE

. . . the carefree, fun living of the Raynor Garage-Aire brings to your home a new concept in indoor-outdoor living! The new Raynor Garage-Aire and the use of two Raynor Garage Doors immediately transform your garage into wonderful, useable, liveable floor space for entertaining, recreation, better family living. Of the utmost importance to you, the Raynor Garage-Aire costs so little. *Write today for free literature*

RAYNOR MFG. CO.

Dixon, Illinois Hammonton, New Jersey

Builders of a complete line of sectional overhead type doors.



The Raynor Garage-Aire becomes a ballroom where the younger set can enjoy themselves to the fullest.

When fun living is over, the Garage-Aire provides inside shelter for the family Auto.

Office Literature

Metal Lath Specifications
(A.I.A. 20-B-1) Contains fire resistive ratings; design tables; and specifications for hollow partitions, solid partitions, sound insulating partitions, ceilings, vertical furring, and centering. Sections relating to materials and corner joint reinforcement are also included. 20 pp. *Metal Lath Manufacturers Assn., Engineers Bldg., Cleveland 14, Ohio**

Timber Treating Standard
Indicates conditions under which treatment of wood is advisable; and covers types of treatment, types of preservatives and recommended minimum retentions for sawn and glued laminated members. *Timber Construction Standards,* Section 1100. *American Institute of Timber Construction, 1757 K St., N. W., Washington 6, D.C.*

American Blower Dust Collectors
Describes operating characteristics and construction features of Series 342 industrial dust collectors, and gives tabular physical and dimensional data. Engineering calculations are simplified by two monograms, one on collector selection and one on collector efficiency. Bulletin 1828, 16 pp. *Industrial Div., American Standard, Detroit 32, Mich.**

All-Air High Velocity Units
(A.I.A. 30-J) Contains complete application and performance data, and specifications on aspirating and induction units and diffusers for high velocity systems. Catalog HV-70, 24 pp. *Anemostat Corp. of America, 10 East 39th St., New York 16, N. Y.**

Windows by Albro
(A.I.A. 16-E) Describes, and gives details and specifications for Albro custom-made metal windows. 20 pp. *Albro Metal Products Corp., 944 Longfellow Ave., New York 59, N. Y.**

Rilco Laminated Products
(A.I.A. 19-B-3) Describes, illustrates, and gives design tables and specifications on Rilco laminated timber arches, beams, trusses, deck and special products. 20 pp. *Rilco Laminated Products, Inc., Rm. 615, Tacoma Bldg., Tacoma 1, Wash.**

**Additional product information in Sweet's Architectural File*

more literature on page 304



View of the snack bar and lounge in the Bell Telephone Company's new office building in Pittsburgh, Pa. A portion of the snack bar walls (foreground) shows the use of two colors of Natco Vitritile to create an interesting, colorful pattern. The lounge wall (background) shows the beautiful effect achieved through the use of Natco roman brick with Wave-Tex finish.

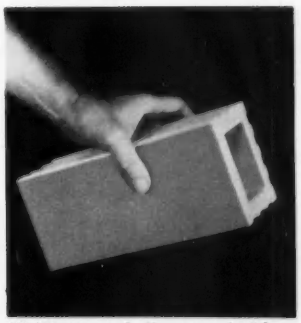
Another modern "showplace" through creative use of Natco Products

The 1,600 employees in the Bell Telephone Company's brand new Pittsburgh office building can point with pride to their new lounge and snack bar. It's truly one of the interior "showplaces."

Two Natco products were used extensively to help create this modern center of color, texture and design: (1) Natco roman brick with Wave-Tex finish, and (2) Natco ceramic glazed Vitritile.

But modernity is only *one* of the important qualities of Natco structural clay tile building products. They're also the most *functional* building products available. Take Vitritile, for example. Ceramic glazed Vitritile comes in a variety of pleasing, non-fading colors. It's easy to install and maintain. It's fireproof, sanitary and will *never* lose its "brand new" look.

All that's necessary to transform the highly functional qualities of Natco products into a modern showplace is *imagination*. Write for one of our new "full line" catalogs.



Vitritile comes in three nominal face sizes: 8" x 16", 5⅓" x 12" and 5⅓" x 8", in 2", 4", 6" and 8" thicknesses.

Today's idea becomes tomorrow's showplace . . . when Natco structural clay products are in the picture

natco corporation

GENERAL OFFICES: 327 Fifth Avenue, Pittsburgh 22, Pennsylvania . . . Branch Offices: Boston • Chicago • Detroit • Houston • New York • Philadelphia • Pittsburgh • Syracuse Birmingham, Alabama • Brazil, Indiana . . . IN CANADA: Natco Clay Products Limited, Toronto



The floor in Tulane Gymnasium, where all varsity basketball games are played, is finished with safe, durable, non-slippery Seal-O-San.

"Seal-O-San and good basketball are teammates!" says *Cliff Wells*



Cliff Wells, Head Basketball Coach
Tulane University
New Orleans, Louisiana

"There is no substitute for fundamental training in basketball, and *there is no substitute for Seal-O-San* in surfacing the basketball floor," says Cliff Wells. "Seal-O-San and good basketball floors are teammates. Speed and sure footing, which are so necessary in basketball, are insured by Seal-O-San. That's why I specify Seal-O-San *must be used* on the Tulane Gymnasium floor, where all varsity basketball games are played."

Coaches like Cliff Wells insist on Seal-O-San. They have learned, through years of experience, that they can depend upon Seal-O-San with assurance that it produces the finest possible basketball playing surface. Write for details and specifications on Seal-O-San today.

Sweet's

Ask our representative, the Man Behind the Huntington Drum, for his assistance with floor sealing and finishing problems. His help is yours without obligation.



HUNTINGTON

. . . where research leads to better products

HUNTINGTON LABORATORIES • HUNTINGTON, INDIANA • Philadelphia 35, Pennsylvania • *In Canada:* Toronto 2, Ontario

This modern design troffer — only 4⅞" deep — permits reduction of plenum depth — offers additional structural freedom between floors. Engineered to Benjamin's nationally-recognized quality standard, this new shallow-line troffer has been performance tested in the Benjamin lighting fixture laboratory.

Five basic sizes provide complete versatility — 2'x 4', 2'x 8', 1'x 4', 1'x 8' and 2'x 2'. The most complete selection of lenses or louvers in the lighting industry provides a type to meet every requirement.

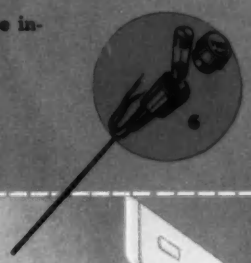
A Benjamin lighting sales engineer is always available to help you with your lighting plans.

1. **NEW SNAP-IN SOCKET** — simplifies installation — locks in firmly, eliminates vibrations.
2. **NEW SWIVEL SUSPENSION** — quick installing swivel bar mechanism cuts labor time and cost. ¼ turn of 4 screws suspends unit.
3. **NEW ONE PIECE HOUSING** — unitized 4' and 8' fixtures possess maximum structural strength.
4. **SUPERIOR HINGING MECHANISM** — so simple it merely drops into place—no screws to tighten.
5. **UNEQUALLED TAB-LOCK LATCH**—provides easy, positive action, gives permanent rattle free fastening.
6. **PROTECTED AGAINST OVERLOAD** — cartridge fuse installed in every unit as added safety feature.

NEW FROM BENJAMIN

THE WORLD'S MOST COMPLETE LINE OF ARCHITECTURALLY ENGINEERED

SHALLOW-LINE TROFFERS





1' x 4' Troffer, shown with Benjamin's exclusive L-120 low brightness lens. Maximum light transmission plus effective brightness control.

2' x 4' Troffer, shown with Holophane No. 6025 Lens. The finest in concave molded plastic.



2' x 2' Troffer, shown with Owens Corning Fiberglas Lens. New flat polarizing light diffusing panel, reinforced with fiberglas flake.



BENJAMIN DIVISION
Des Plaines, Illinois
THOMAS INDUSTRIES Inc.
World's Largest Single Source of Lighting for Home, Commerce, and Industry.

SEND FOR THIS NEW 52 PAGE CATALOG
— gives complete technical information and specifications on Shallow-Line Troffers. Request Bulletin A: Benjamin Division, Thomas Industries Inc., Louisville 2, Kentucky, Dept. 4C.



The Benjamin *Lumi-Flo* is a completely unique recessed LIGHTING troffer, designed for direct connection to HEATING and/or AIR CONDITIONING. Positive proof of its performance and outstanding appearance is provided by hundreds of installations. *Lumi-Flo* employs the low velocity principle of air handling, introducing air straight down into the room. Drafts are eliminated — hot and cold spots are overcome — lighting efficiency is substantially increased.

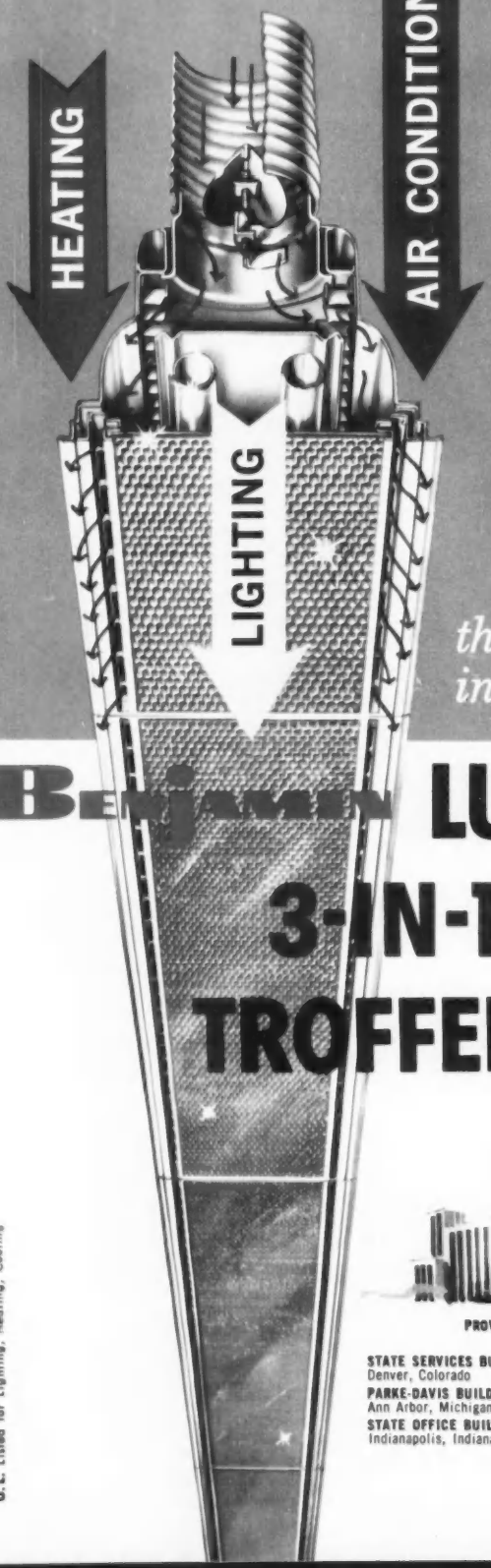
Because of its superior engineering and exceptional features, *Lumi-Flo* requires fewer ceiling openings, eliminates unsightly air diffusers and becomes a handsome, functional part of a completely integrated design.

Lumi-Flo also offers you totally new freedom in designing room interiors, since its air distribution is not dependent on walls or partitions. Consequently, modern modular units may now be planned with complete freedom of partition arrangement. A complete selection of closures are available in prismatic lens or louvered types. Simplified installation insures important savings in time and labor costs.

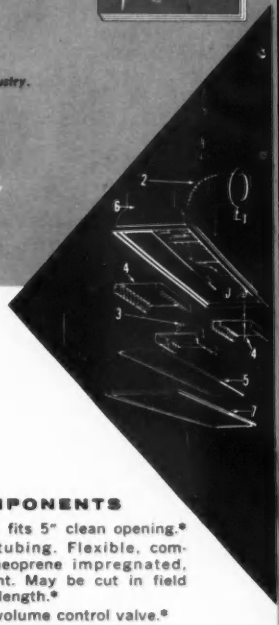
WRITE FOR NEW LUMI-FLO CATALOG — Bulletin B contains complete specifications and installation information. FREE on request from Benjamin Division, Thomas Industries Inc., Louisville 2, Ky., Dept. 4C.



BENJAMIN DIVISION
Des Plaines, Illinois
THOMAS INDUSTRIES Inc.
World's Largest Single Source of Lighting for Home, Commerce, and Industry.



the most advanced design in the commercial field



BENJAMIN LUMI-FLO 3-IN-1 TROFFERS

COMPONENTS

1. Duct collar, fits 5" clean opening.*
2. Fiberglass tubing. Flexible, compressible, neoprene impregnated, fire-retardant. May be cut in field to suitable length.*
3. Adjustable volume control valve.*
4. Diffusing plate.
5. Inner reflector.
6. Troffer housing.
7. Shielding element.

**Supplied by sheet metal contractor.*



PROVED AT THE HARRIS TRUST & SAVINGS BANK, Chicago, Illinois
. . . and in hundreds of other installations, including:

STATE SERVICES BUILDING, Denver, Colorado
PARKE-DAVIS BUILDING, Ann Arbor, Michigan
STATE OFFICE BUILDING, Indianapolis, Indiana
I. B. M. CORPORATION, Endicott, New York
WESTERN ELECTRIC CO., Allentown, Pennsylvania
UPJOHN COMPANY Menlo Park, California
GEORGIA POWER CO., Atlanta, Georgia
THE BANK OF CALIFORNIA Berkeley, California
FIDELITY CASUALTY INSURANCE CO., Jacksonville, Florida

U.L. Listed for Lighting, Heating, Cooling

Armco Steels / for Architecture

In Philadelphia

Stainless Steel Combines Economy and Timeless Beauty

3 Penn Center Plaza
Architects: Emery Roth & Sons

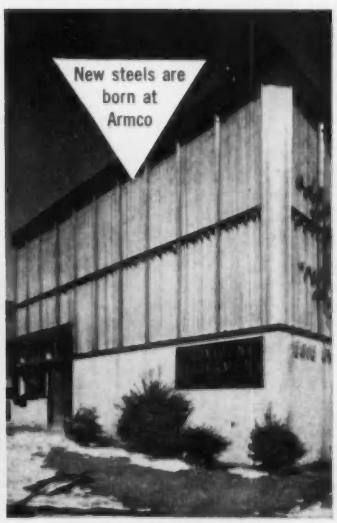




Food Fair Stores, Inc.
Architects: Thalheimer & Weitz



Philadelphia State Office Building
Architects: Carroll, Grisdale & Van Allen; Harbeson, Hough, Livingston & Larson; Nolen & Swinburne



Provident Tradesmens Bank & Trust Company
Architect: Jack S. Steele Company

In the architectural renovation of "the City of Brotherly Love," stainless steel's inherent advantages are used effectively to give the city's new buildings timeless beauty at low cost.

Long recognized as a durable, high quality building material, stainless is assuming a new importance in contemporary architecture. It is suited to modern design concepts, and now can be specified at approximately the same cost as less durable metals.

These substantially lower costs for stainless are the cumulative result of: 1. more fabricator-experience with the metal; 2. use of more efficient production methods, such as roll-forming; 3. more effective use of stainless steel's high strength, and the specification of economical sizes and finishes; 4. quantity production of standard building components; 5. lower-cost grades of stainless that adequately meet architectural requirements.

Take advantage of these new opportunities offered by the time-proved qualities of Armco Stainless Steels in the architecture *you* create.

Write us for your free copy of Armco Stainless Steels for Architecture, a new design and specification manual. Armco Steel Corporation, 1710 Curtis Street, Middletown, Ohio.

ARMCO STEEL

Armco Division • Sheffield Division • The National Supply Company • Armco Drainage & Metal Products, Inc. • The Armco International Corporation • Union Wire Rope Corporation

Timeless dimensions



in wall paneling.....



Cross-section shows the construction detailing of the Cherry Wood paneling in the photo at the left. Stock molding materials can be combined with veneer panels to produce decorative effects of outstanding interest and beauty.

■ Centuries have put their stamp of approval on the mellow beauty of wood. Its fascination never grows old. Keeping it new are the constant advances in architectural concepts as well as the bold use of traditional motifs.

The imaginative installation in the photo at left certainly exemplifies a style of simple elegance in wall panel design. The deft hand of the wood artisan has been at work here, blending veneer panels and molding into a timeless expression of human craftsmanship. The result is a straightforward beauty of lines and planes in dimensional depth. Whether an architectural design is traditional or contemporary, the use of veneer paneling has a way of putting the busy man at ease in his work-day setting by virtue of its warmth and dignity.

The photo and cross-section detailing shown here depict only one style of divided paneling. Single panels of any desired size can be designed. The infinite possibilities for architectural ingenuity, taking full advantage of the charm of some of Nature's most beautiful woods in veneers by Stem, are easy to see. The most extensive portfolio of architectural veneers in the United States is on hand, ready for shipment. And this Stem selection offers endless inspiration for design ideas with the creative touch of wood. Stem veneers are the most masterful accomplishment of the veneering art. You are invited to let Stem help you achieve a masterpiece of interior artistry.

Chester B. Stem incorporated
785 Grant Line Road, New Albany, Indiana

BUTTERNUT, EBONY, KOA, ENGLISH BROWN OAK, ROSEWOOD CHERRY, HAREWOOD, LACEWOOD, PEARWOOD, TEAK.

STEM...EMINENCE IN WOOD

Executive offices:
Marine Trust Company, Buffalo, New York



BOGEN MEANS SOUND FLEXIBILITY

A Bogen sound system is virtual insurance against obsolescence. You plan on the basis of your immediate needs, and start with a system tailored to those needs. Thereafter, as your functional requirements increase, you add the appropriate features and facilities. This is the sensible 'expand-as-you-grow' Bogen approach. For example:

IF YOU ARE PLANNING FOR TWO CHANNELS the Bogen Series II Console provides one channel for programming, and another for either intercom or independent, simultaneous programming.

IF THREE CHANNELS ARE PLANNED the Series III console offers the choice of intercom plus two program channels or three independent, simultaneous programs.

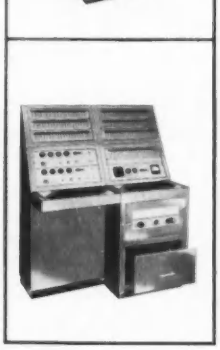
These systems may be ordered with facilities to handle any number of rooms—from as few as 10 to as many as 180 or more—in multiples of 10. And the number of rooms to be served can be increased even after installation.

Here are only a few of the many optional features available for these systems: classroom change signals, fire-alarm or civilian defense sirens, 1-way or 2-way phone and speaker intercom, recorded tape playback, record players, FM and AM radio, vandal alarms, and others—even facilities for tieing in with independent auditorium and gymnasium sound systems. These, too, may be included in the original installation or added at a later date.

Bogen-Presto offers you other valuable advantages: a free survey of your needs, and engineering assistance—from planning through installation. Service and maintenance is available to you locally, through authorized Bogen-Presto sound installers and distributors.

Write for complete details today.





BOGEN
SOUND SYSTEMS

BOGEN-PRESTO PARAMUS, NEW JERSEY Dept. AR5

Please send your complete 8-page catalog covering centralized sound systems.

NAME_____

NAME OF COMPANY_____

ADDRESS_____

CITY_____ ZONE____ STATE_____

HIGH FIDELITY COMPONENTS, PUBLIC ADDRESS AND INTERCOMMUNICATION SYSTEMS

Office Literature

Structural Design
. . . of Combination Tile and Concrete Slabs (A.I.A. 4-E-6, 10-A) outlines design procedures, and gives detail drawings and tables of safe superimposed loads for typical tile-concrete slabs for simple, end and interior spans. 24 pp. *Structural Clay Products Institute, Department of Engineering and Technology, 1520 Eighteenth St., N.W., Washington 6, D. C.*

Air-Cooled Condensers
Gives selection data and specifications for four types of *Turbu-Flo* air-cooled condensers. Bulletin AC-102, 12 pp. *Halstead & Mitchell, Bessemer Bldg., Pittsburgh 22, Pa.*

Aluminum Sliding Glass Doors
(A.I.A. 16-E) Includes details, selection data, and specifications on three lines of aluminum sliding glass doors. 12 pp. *Arcadia Metal Products, 801 S. Acacia Ave., Fullerton, Calif.**

Simpson Products Catalog
(A.I.A. 37-B) Illustrates and describes methods of application, physical properties and specifications for complete line of acoustical, insulating and hardboard products. 24 pp. *Simpson Logging Co., 1033 White Bldg., Seattle, Wash.**

Painted Masonry Surfaces
Discusses causes of efflorescence and early chalking on painted masonry surfaces, and effective methods for preventing and overcoming such deterioration. 48 pp. *Resinous Products Div., Rohm & Haas Co., Washington Sq., Philadelphia 5, Pa.**

Seaporcel Architectural Porcelain
Gives technical data, details and specifications for porcelain enamel veneer panels and *Seaporclad* insulated-laminated curtain wall panels. *Seaporcel Metals, Inc., 28-20 Borden Ave., Long Island City, N. Y.**

Architectural Formica-Clad Doors
Describes, and gives details and specifications for *Formica*-clad solid core doors. 4 pp. *Architectural Products Mfg. Co., 1046 Murphy St., Shreveport, La.**

**Additional product information in Sweet's Architectural File*

NEWS from Dow Corning

Now: Brick That Stay Clean!



New Factory Applied Treatment "Builds-In" Lasting Beauty



Thanks to a major advance in chemistry, brick can now have built-in cleanliness. The new factory-applied chemical treatment is called Silaneal®, and it assures you of long-lasting beauty in brick. As a bonus benefit, it makes layup easier, too! Silaneal has been evaluated in tests prescribed by the Structural Clay Products Research Foundation, and has been thoroughly field-proven in numerous buildings.

How does Silaneal accomplish so much? By making brick water-repellent. For water is a chief source of staining trouble. Water carries soil, soot, and other dirt into the brick. Also, water leaches salts out of the brick and deposits them on the surface, forming efflorescence. Because Silaneal causes brick to shed water, staining is virtually eliminated. Even the highly decorative light shades of brick keep their original beauty . . . and in all climates. Brick stays clean in storage and after installation.



Silaneal makes brick easier to layup, because it gives brick a controlled, optimum suction rate. As a result, there's seldom any need for wetting the brick before layup. Also, more mortar can be buttered on at a time. And more courses can be laid before striking the joints is necessary. Moreover, clean-up can generally be done by simple brushing . . . the need for acid cleaning is minimized. The whole construction process of layup and clean-up is simplified and speeded.

In summary, Silaneal does great new things for that great old material, brick. Shown are a few of the buildings that have been constructed of brick factory-treated with Silaneal. If you would like more information on this new aid to constructing better brick buildings, or a list of companies supplying brick with Silaneal, write dept. 5905.

SUSTAINING ASSOCIATE SCPI

first in silicones

Dow Corning CORPORATION

MIDLAND, MICHIGAN

ATLANTA BOSTON CHICAGO CLEVELAND DALLAS LOS ANGELES NEW YORK WASHINGTON, D. C.



BETHLEHEM SLABFORM

cuts concrete forming costs by one-third

At the Cole Steel Equipment Co. warehouse in York, Pa., 87 tons of Slabform were used directly over the Bethlehem structural shapes. Architect: Buchart Associates; general contractor: I. Reindollar & Son, Inc., York.

At Cole Steel Equipment's new warehouse in York, Pa., some 87 tons of Bethlehem Slabform were welded directly to steel beams to support a 4½-in., poured-in-place slab.

By using Slabform in place of the usual forming material over steel beams, it is estimated that forming costs were cut by one-third. Here's why:

1. Slabform covered the floor area quicker, at less labor cost.

2. Slabform is a permanent form, saving the entire cost of stripping.

The fasteners used with Slabform project into the slab and effectively tie the slab to the steel beams—helping to insure composite action.

Reinforcing bar high chairs, specially designed for use with Slabform, are available.

Slabform Ideal as a Concrete Form

Bethlehem Slabform is a high-strength, formed steel sheet which is used both as a permanent steel form for poured concrete, and in roofs as the permanent supporting member for lightweight insulating concrete fills. In the latter case Slabform is always used galvanized. When used as a form only, Slabform is generally furnished black (uncoated) for reasons of economy.

Longitudinal Ribs for Strength

Bethlehem Slabform is manufactured from steel having a yield point over 90,000 psi. Longitudinal ribs give it exceptional strength.

Three Weights and Patterns

Slabform is available in three weights and patterns—Standard, Heavy-Duty and Extra Heavy-Duty—to satisfy the requirements of various spans and loads.

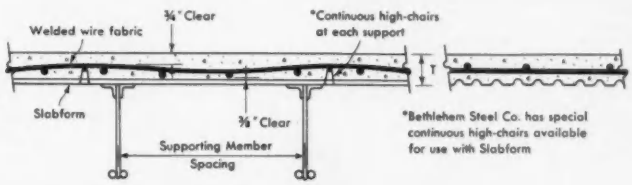
All three weights are available in black (uncoated) and galvanized finish.

Design load capacities, suggested specifications, and other information appear in Sweet's Architectural File. The nearest Bethlehem sales office would be glad to send you our Slabform folder, or talk with you about your job. No obligation, of course.

BETHLEHEM STEEL COMPANY, BETHLEHEM, PA.

Export Distributor: Bethlehem Steel Export Corporation

The table shows the load capacities for structural reinforced concrete slabs over Slabform. It shows various depth slabs reinforced with minimum welded wire fabric as required by code. This table also shows the type of Slabform recommended as a form.

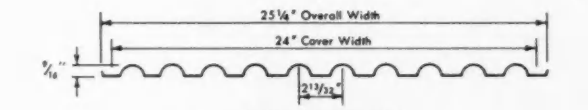


LOAD CAPACITIES OF STRUCTURAL REINFORCED CONCRETE SLABS

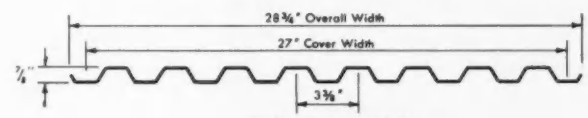
(INCLUDING REQUIRED TYPE OF SLABFORM)

Slab Thickness (Inches)	Slab Weight (Lb/Ft²)	Slab Reinf. (Welded Wire Fabric)	LOADS IN LB PER SQ FT FOR SPANS SHOWN											
			1'-6	2'-0	2'-6	3'-0	3'-6	4'-0	4'-6	5'-0	5'-6	6'-0	6'-6	7'-0
2½	27	6 x 6—10/10	366	194	114									
2½	27	6 x 6—6/6				169	117	83						
3	32	6 x 6—10/10		279	167									
3	32	6 x 6—5/5				287	181	131						
3½	36	6 x 6—4/4					300	221	167	128	85	66	51	39
4	42	6 x 6—4/4						277	209	146	113	88	68	53
4½	48	4 x 4—6/6							279	199	156	123	98	78
5	52	4 x 4—4/4								348	278	225	185	
TYPE OF SLABFORM			STANDARD				HEAVY-DUTY			EXTRA HEAVY-DUTY				

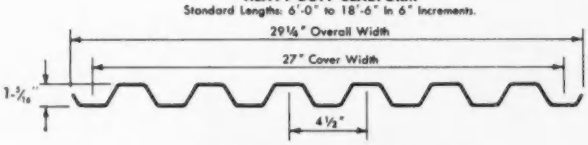
NOTES:
1. Above table gives superimposed loads which various depth slabs will carry when reinforced as shown. The type of black (uncoated) Slabform to be used is also shown. When galvanized material is used add the slab weight to capacities shown to determine allowable superimposed loads. This is based on the galvanized material carrying the dead weight of the concrete. Loads shown are for interior spans only.
2. The recommended Slabform shown in each instance will not deflect more than 1/240 span under weight of concrete only.
3. Superimposed loads were determined as follows:
   a. Bending moment $\frac{WL^2}{12}$; fc = 2500 psi, fs (welded fabric) = 28,000 psi (50% min. yield point per ACI 306(b)).
   b. Reinforcing for 2½ in. and 3 in. slabs on spans up to 30 in. based on minimum allowable for temperature reinforcing per Steel Joist Institute "Code of Standard Practice" Section 3.7.
   c. Reinforcing for 3½ in. and deeper slabs based on minimum allowable reinforcing per ACI building code 702(e) 2.
   d. Effective slab depths determined as follows:
      Standard Slabform d = T—1.28
      Heavy-Duty Slabform d = T—1.44
      Extra Heavy-Duty Slabform d = T—1.65
   e. For end spans reduce capacities shown in table by 16%.
   f. For simple spans reduce capacities shown in table by 33%.



STANDARD SLABFORM
Standard Lengths: 6'-3", 8'-3", 10'-3" and 12'-3".



HEAVY-DUTY SLABFORM
Standard Lengths: 6'-0" to 18'-6" in 6" increments.



EXTRA HEAVY-DUTY SLABFORM
Standard Lengths: 6'-0" to 21'-6" in 6" increments.

NOTE: ALL DIMENSIONS NOMINAL



After installation, the appearance from below is neat and clean

BETHLEHEM STEEL



FIFTY MILES
OF UNDERFLOOR DUCT BY
ORANGEBURG®

375 PARK AVENUE... towering 38 stories above New York's Park Avenue is the world's first bronze skyscraper. Luminous ceilings transform it into a tower of light at night. ■ This outstanding building is equipped with every modern electrical feature—for comfort, convenience and efficiency—including 50 miles of underfloor duct by Orangeburg. ■ As in 375 Park Avenue, non-metallic underfloor duct by Orangeburg has been selected since 1921 for many of the country's leading buildings because of its safety, flexibility and low-installed cost. ■ To learn how an Orangeburg Underfloor Duct System keeps a building *electrically modern* for its *lifetime*, write for Catalog 201.

Orangeburg Manufacturing Co., Division of The FLINTKOTE *Company, Manufacturer's of America's Broadest Line of Building Products*

The Record Reports

On the Calendar

May

1-3 Chicago Electrical Industry Trade Show and Exposition—Lake Front Exposition Hall, Chicago

1-4 Annual Meeting, Air-Conditioning and Refrigeration Institute—The Homestead, Hot Springs, Va.

1-4 48th Annual Meeting, Chamber of Commerce of the United States—Washington

1-7 Congress on Better Living, sponsored by *McCall's* magazine—Washington

2-7 Fourth Annual Meeting, Executive Committee and Board of Directors, Consulting Engineers Council—Gearhart Hotel, Gearhart, Ore.

9-12 Second Instrument-Automation Conference and Exhibit of 1960, sponsored by Instrument Society of America—Civic Auditorium and Brooks Hall, San Francisco

11-16 World Design Conference in Japan (followed by tours, 18-20); theme, "Our Century: The Total Image"—Tokyo

12-14 South Atlantic A.I.A. Regional Conference—Winston-Salem, N. C.

15-20 29th Annual National Conference, American Institute of Decorators—Beverly Hilton Hotel, Beverly Hills, Calif.

16-20 Annual Meeting, National Fire Protection Association—Queen Elizabeth Hotel, Montreal

19-21 Annual Meeting, Refrigeration Research Foundation—Denver

22-27 41st International Conference and Exposition, National Office Management Association—Queen Elizabeth Hotel and Show Mart, Montreal

23-26 Design Engineering Show and Conference—The Coliseum, New York

28 25th World Planning and Housing Conference—San Juan, Puerto Rico; till June 3

June

1-4 Annual Assembly, Royal Architectural Institute of Can-

continued on page 312

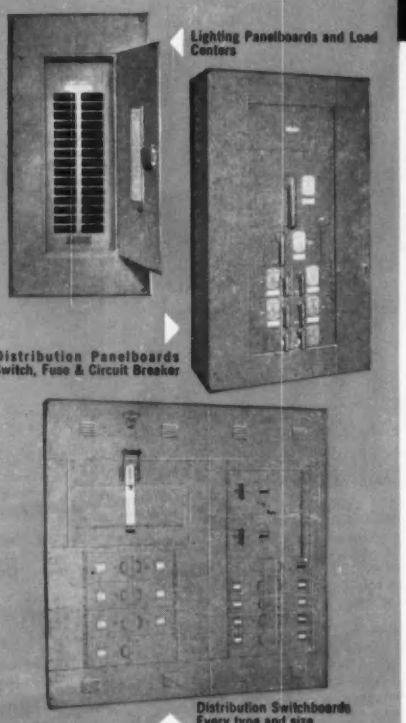
Q. Who has the right answers to every power control and distribution problem?

A. Easy!

FRANK ADAM



FRANK ADAM ELECTRICAL EQUIPMENT REPRESENTS THE INDUSTRY'S FINEST



Safety Switches, Busduct & Wire Duct, Stage Lighting Controls

Ask for Catalogs & Bulletins

KEEP PACE WITH ELECTRICITY

See our Catalog in SWEET'S

Frank Adam experience pays off for you in

Electrical Equipment

that pays off best for your clients

Every project creates a different problem of secondary power distribution and control. Developing correct solutions that adequately and economically meet each immediate, as well as future, requirement has been the responsibility of the Frank Adam organization for over 3 generations. There is unlikely to be any size or type of installation in which Frank Adam engineers are not fully experienced and equipped to undertake.

Equally important as its engineering help is the equipment Frank Adam can furnish. Whether your specifications call for a distribution switchboard, a midget safety switch, or everything between, Frank Adam equipment will give unsurpassed performance—safely, efficiently, dependably, durably.

Call your Frank Adam Engineer Representative for willing assistance on every electrical control and distribution problem—or write the factory direct.

FRANK ADAM ELECTRIC COMPANY
P O BOX 357 MAIN P O ST LOUIS 66 MO

busduct • panelboards • switchboards • service equipment • safety switches load centers • Quikheter



The Union Pacific Railroad freight station, Kansas City, Kansas, uses a total of 76 "OVERHEAD DOORS" in a vast unloading system that can handle up to 96 freight cars at the same time.

Freight trains are unloaded inside the building with small hand carts. These are carried by conveyor to the proper "OVERHEAD DOOR" for reloading merchandise into trucks.

"OVERHEAD DOOR" opens a new door to traffic control

Doors channel traffic—speed movement of people, vehicles, materials

"OVERHEAD DOORS," as movable walls, give you new flexibility in designing traffic control. By *creating new outlets*, they can speed traffic through dead ends. By *opening more outlets*, they can prevent pile-ups, distribute the main flow of traffic through several openings. By *providing a selection of outlets*, they can divert the flow of traffic in a desired direction. For an unlimited variety of applications, they offer a simple, low-cost solution to more efficient movement of people, vehicles, materials.

The flexible Union Pacific Railroad freight station, shown at left, is just one example. Two banks of 38 doors serve to *sort* goods being moved from railroad cars to waiting trucks. The railroad cars enter bays inside the building and are quickly unloaded with the use of small hand trucks, which are carried by a conveyor to the proper door. This ingenious system can handle as many as 96 freight cars at once.

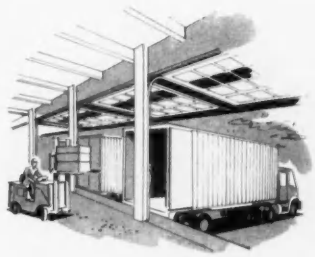
Many other new ideas in traffic control have been developed and tested by Overhead Door Corporation engineers—ideas that result from this company's 39 years of experience in the garage door field.

Get detailed information from your local distributor (see "OVERHEAD DOOR" in the white pages) for an application you may now be planning, or write to Overhead Door Corporation, *General Office:* Hartford City, Indiana—*Manufacturing Distributors:* Cortland, N.Y.; Hillside, N.J.; Lewistown, Pa.; Nashua, N.H.—*Manufacturing Divisions:* Dallas, Tex., Portland, Ore. —*In Canada:* Oakville, Ontario.

To solve many traffic control problems—



Drive-through—"OVERHEAD DOORS" front and rear (or front and sides) are frequently used by auto service centers, garages, car wash businesses and delivery companies to allow cars and trucks to *drive through* and avoid interruption of incoming and outgoing traffic.



Reverse opening—"OVERHEAD DOORS" that open outward, rather than inward, follow the contour of outside wall and canopy. Their reverse opening provides needed head-room for fork-lift trucks and similar equipment used inside to speed materials handling.

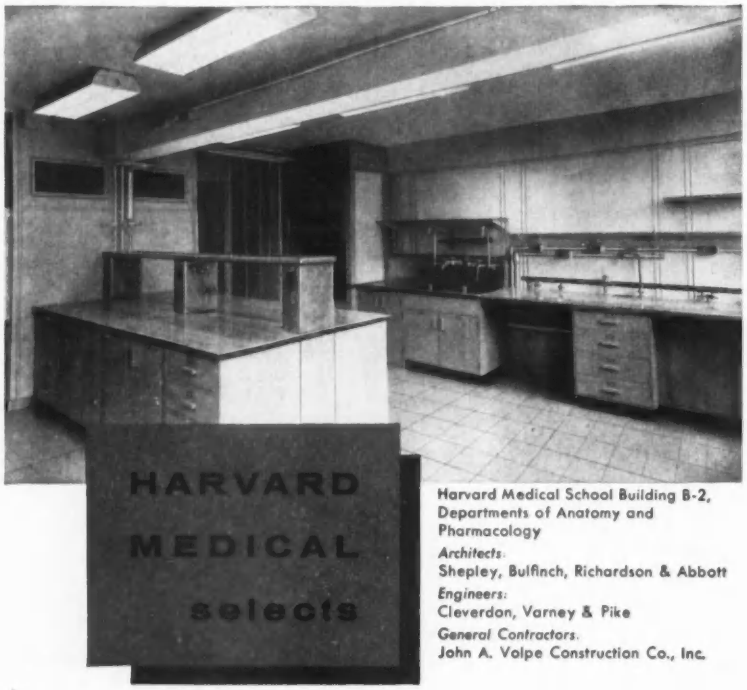


Directional control—"OVERHEAD DOORS" offer a simple, low-cost way to direct the flow of people. A typical application is a railroad passenger station using automatically operated "OVERHEAD DOORS" to open and close gates of loading passenger trains.

THE "OVERHEAD DOOR" TRADE MARK

the original upward-acting, sectional door . . . made only by

OVERHEAD DOOR CORPORATION



Harvard Medical School Building B-2, Departments of Anatomy and Pharmacology
Architects:
Shepley, Bulfinch, Richardson & Abbott
Engineers:
Cleverdon, Varney & Pike
General Contractors:
John A. Volpe Construction Co., Inc.

POWER-STRUT *Movable* WALLS

Designed to meet tomorrow's needs in medical research, the brilliant new laboratories, offices and special use areas at Harvard Medical School in Boston comprise the ultimate in modern functional construction.

This spacious facility is built to keep pace with advancing procedures and equipment in the field of medicine. In keeping with the desire for flexibility, the Administration, Superintendent of Buildings and Grounds, and Architects selected Power-Strut Movable Walls.

Over 80,000 feet of this completely flexible movable wall system has been efficiently and economically installed throughout the entire building . . . another outstanding example of the superior flexibility of Power-Strut Movable Walls to building for research.

If you would like to learn how Power-Strut can help you solve the problems of low cost space division in your next laboratory, plant or school project, write *today* for Brochure No. 580.

Power-Strut Movable Walls allow convenient attachment and support of water, gas and steam pipes, compressed air lines, electric outlets, air duct louvres, electrical control panels, shelving, benches, cabinets, sinks and any other type of laboratory equipment. Versatile Power-Strut channels and component clamping units provide economical overhead support for piping and attachments, too.



POWER-STRUT DIVISION
VAN HUFFEL PRODUCTS, INC.
WARREN • OHIO

The Record Reports

ada—Fort Garry Hotel, Winnipeg

8-11 Annual Meeting, National Society of Professional Engineers—Statler Hotel, Boston

9-11 Annual meeting, New Jersey Society of Architects, New Jersey Chapter, American Institute of Architects—Berkeley-Carteret Hotel, Asbury Park, N. J.

12-24 Fourth Annual Seminar for teachers of architecture, jointly sponsored by the American Institute of Architects and the Association of Collegiate Schools of Architecture; theme: Technology in Architecture—Sagamore Lake, N. Y.

13-15 Annual Meeting, American Society of Heating, Refrigerating and Air-Conditioning Engineers—Royal York Hotel, Vancouver

13-15 Annual Meeting, American Association of Cost Engineers—Rice Hotel, Houston

15-18 British Architects' Conference for 1960—Manchester, England

19-22 Annual Convention, National Parking Association—San Francisco

19-25 National Convention (second of three in 1960), American Society of Civil Engineers—Reno

25ff First International Congress for Automatic Control; through July 5—Moscow, U.S.S.R.

27-29 61st Annual Meeting, American Society of Landscape Architects—Waldorf-Astoria Hotel, New York

July

11-18 Second World Conference on Earthquake Engineering—Tokyo and Kyoto

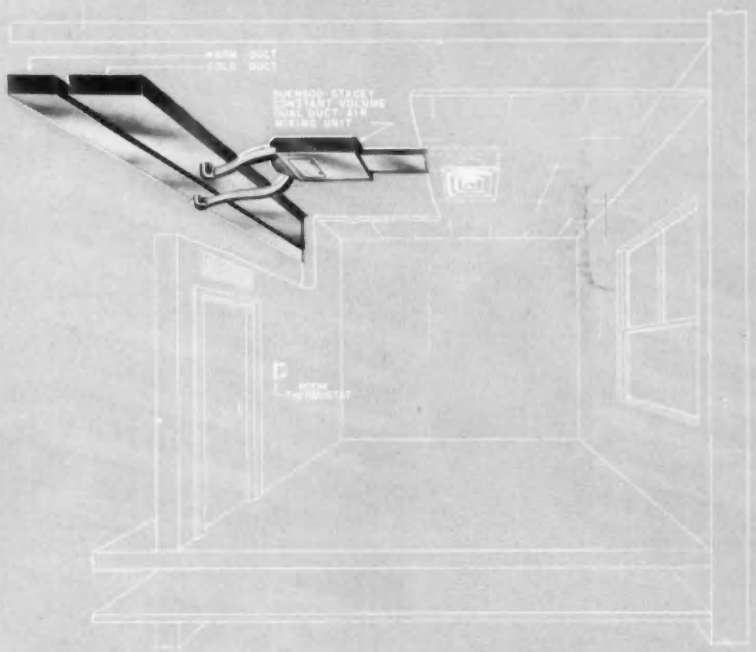
18-29 22nd Annual Special Summer Program, City and Regional Planning—Massachusetts Institute of Technology, Cambridge, Mass.

Office Notes

Offices Opened

Ralph T. Rowland and Gordon B. Griswold have announced their part-

continued on page 320



HIGH VELOCITY DUAL DUCT SYSTEM

THE LOGIC OF DUAL-DUCT DESIGN

. . . simplicity, adaptability, flexibility

The best solution to a problem is always the simplest solution. For example — the problem of maintaining selective, zoned comfort control in office buildings, hospitals, hotels, schools, apartment houses and other modern structures. In most cases, the best solution is the High Velocity Dual-Duct method, pioneered and developed by Buensod-Stacey. This one system heats, cools and provides proper humidification all year-'round. It is easily adaptable to your architectural design problems and, after installation, is extremely simple and economical to operate. The system's inherent flexibility readily handles changing zone requirements.

So for your next project, whether it's a new or renovated structure, plan on Dual-Duct, because Buensod developed it. If you'd like more information we've prepared an illustrated "Architects' Guide to Dual-Duct Air Conditioning." It's yours for the asking.

BUENSOD DUAL-DUCT

Dept. B, Buensod-Stacey Corp. 45 West 18 Street, New York 11, N. Y.

BUENSOD-STACEY

Subsidiary of Aeronca Manufacturing Corporation



Truscon Series 138 Double-Hung Steel Windows, fixed picture windows, and screens are an income producing feature of 3440 Lake Shore Drive Apartments, Chicago, Illinois. Architects: L. R. Solomon and Associates. Contractor: Lloyd's Builders.



BEST KITCHEN BUY FOR APARTMENT BUILDERS— Republic Steel Kitchens. Durable baked enamel in white and in colors ends kitchen maintenance costs, assures tenant satisfaction. Also available in new vinyl on steel cabinets — abuse resistant, high fashion decorative effect. You don't repaint with every tenant move. Dimensionally accurate Republic Steel Kitchens are easy to install. Doors and drawers fit right with no maintenance. You save for the life of the building when you install trouble-free Republic Steel Kitchens. Send coupon for specifications.

BEST WINDOW BUY FOR APARTMENT BUILDERS... TRUSCON SERIES 138 STEEL DOUBLE-HUNG WINDOWS

No other window like it! All-steel, bonderized, finished in lasting baked enamel. Stainless steel weatherstripping, stainless steel balance tapes. Series 138 is the trouble-free window.

Steel construction is dimensionally stable. Window always operates easily, fits right, closes tight. Tenant satisfaction is built in.

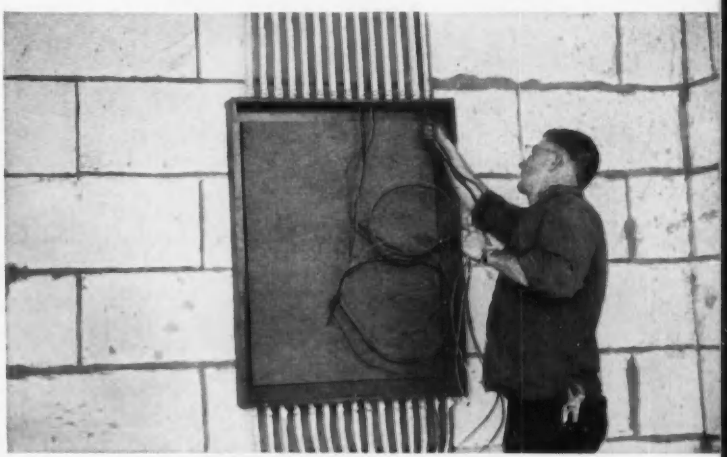
Weathertightness makes the Series 138 the ideal window for use with air conditioning—either central or window located.

Series 138 Steel Double-Hung Window can be incorporated into Truscon's VISION-VENT® Window Wall, giving you the ultimate in apartment curtain wall construction. And, Series 138 can be furnished in your choice of color.

Where apartments are in your plans, be certain to see a demonstration of Truscon Series 138 Steel Double-Hung Window. Your local Truscon representative will be happy to give you all the facts. Or send coupon.



BEST ROOF DRAINAGE SYSTEM FOR APARTMENT BUILDERS— Republic Roof Drainage Products. Republic "K" Gutter in lengths up to 32 feet go up easy, go up fast, go up to stay! Precision manufacturing eliminates bends and bows. And Republic tight galvanized coating stays on to provide years of vital protection. Your Republic roof drainage distributor offers a complete line of everything you need—in galvanized steel, stainless steel, terne, copper, with perfectly matched components. Call your Republic representative, or send coupon for additional facts and specifications.



BEST RACEWAY BUY FOR APARTMENT BUILDERS—Republic Electrical Metallic Tubing. Give your building full housepower, now and in the future. Specify Republic E.M.T. in the next larger size and avoid early electrical obsolescence. You will have a grounded, pull-in, pull-out electrical system in which wire can readily be added or replaced. Tenants will enjoy full housepower, whatever their electrical needs for years to come. And, the installation economies of Republic "INCH-MARKED"® E.M.T. allow all this at no greater cost. Ask your electrical contractor for Republic E.M.T.

REPUBLIC STEEL

World's Widest Range of Standard Steels and Steel Products

REPUBLIC STEEL CORPORATION
DEPT. AR-9193
1441 REPUBLIC BUILDING • CLEVELAND 1, OHIO

Please send more information on the following products:
☐ Truscon Series 138 Steel Double-Hung Windows
☐ Republic Steel Kitchens ☐ Roof Drainage Products
☐ Republic Electrical Metallic Tubing

Name_____ Title_____

Firm_____

Address_____

City_____ Zone____ State_____

Illustration: Memorial Hospital, Albany, N. Y., featured in The Modern Hospital as the "Hospital of the Month" in August 1958. This 235-bed, $3.5 million hospital replaces an older building a few blocks away. Architects: Curtin and Riley, Boston. The architects subscribe to The Modern Hospital; the hospital has three subscriptions in force: one in the name of the hospital, one to the business manager, one to the chief dietitian.



hospital people want

The Modern Hospital

OF ALL THE MAGAZINES PUBLISHED for hospital administrators, their department heads and other hospital personnel, only THE MODERN HOSPITAL sells every subscription at the full published price without special inducements of any kind. This evidence of "wantedness", coupled with a long history of steadily increasing subscription sales, indicates that more and more hospital people want THE MODERN HOSPITAL—because they find it not only helpful in their work but interesting and exciting, alert and competent in its reporting of facts, ideas, opinions that make more competent the exacting, interesting and challenging business of running the nation's hospitals.

an F. W. DODGE CORPORATION publication

The Modern Hospital Publishing Co., Inc.

919 N. MICHIGAN AVENUE, CHICAGO 11, ILLINOIS

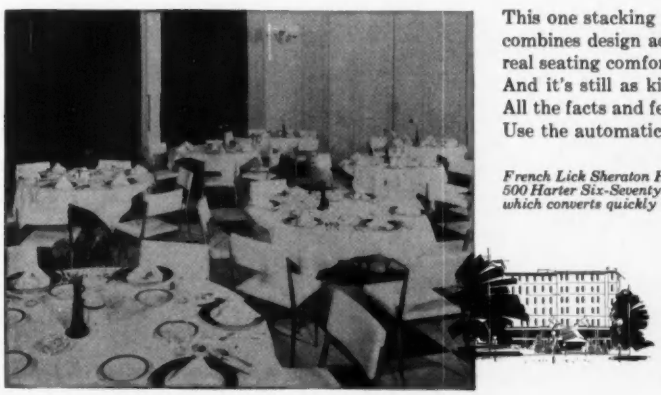


complement to decor ★ deep cushion comfort ★ space-saver, stacks eight high many uses ★ many colors

THE 70 AND THE 671 SERIES

HARTER

SPECIALISTS IN SEATING AND SEATING ONLY FOR OVER 30 YEARS



This one stacking chair — the Harter Six-Seventy — finally, successfully combines design aesthetics in the contemporary motif — with a degree of real seating comfort unapproached even by more expensive side chairs . . . And it's still as kind or kinder to the budget than any alternate choice. All the facts and features — in color — are yours in free descriptive folder. Use the automatic request tag below.

French Lick Sheraton Hotel, French Lick Springs, Indiana, employs 500 Harter Six-Seventy-Ones in newly redecorated Convention Hall which converts quickly to a dining or conference area.



Get full color literature by return mail. Attach this coupon with your name on your letterhead and mail to:

HARTER CORPORATION

5008 Prairie Avenue, Sturgis, Michigan

CANADA: Harter Metal Furniture, Ltd., Guelph, Ont.

The BURGESS-MANNING 3-WAY FUNCTIONAL CEILING

The ONLY TRULY MODERN HEATING *and* COOLING SYSTEM –with highest acoustical efficiency!

These SIX POINTS of SUPERIORITY

1. Maximum Comfort
2. Operating Economy
3. Maintenance Economy
4. Acoustical Efficiency
5. Attractive Appearance
6. Structural Simplicity

Proved the BEST BUY for MADISON HIGH SCHOOL!

The installation of the Burgess-Manning Radiant Heating and Acoustical Ceiling at Madison High School, New Jersey, provides a dramatic demonstration of the "Six Points of Superiority" that distinguish this highly efficient comfort conditioning system.

Because it utilizes radiant energy from the ceiling that is converted into heat only when it strikes a solid object, there are no convection currents in the air.

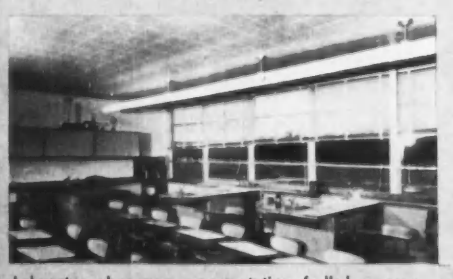
The results, according to Supt. David S. McLean, is a "pleasant and uniform type of heat which warms the room without objectionable drafts or cold spots."

"The absence of conventional under window heating units," reports Architect Frank E. Johnson, who, with Lawrence Licht of Englewood, N. J., designed the school, "opens up the classrooms and has at last liberated the school designer to make more effective and intelligent use of precious space."

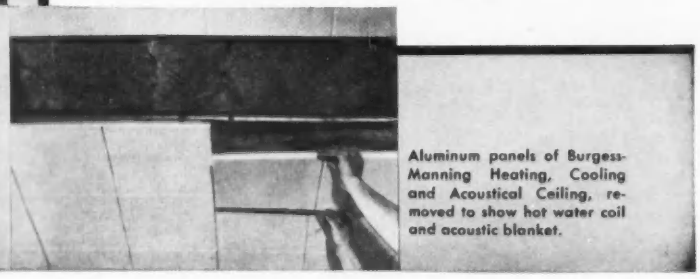
For complete, fully descriptive information about this unique and high efficient comfort conditioning system and its many advantages, write for a copy of "The Story of the Burgess-Manning Ceiling."



Modern building of the Madison High School, Madison, New Jersey.



Laboratory class room, representative of all class rooms of Madison High School. Burgess-Manning Ceiling eliminates all floor and wall convectors—100% floor space usable.



Aluminum panels of Burgess-Manning Heating, Cooling and Acoustical Ceiling, removed to show hot water coil and acoustic blanket.

3 Heating Cooling Acoustical

BURGESS-MANNING COMPANY

Architectural Products Division

719 East Park Ave., Libertyville, Illinois



you can depend on

murray

V-BAK®*

for

MINIMUM MAINTENANCE

Consider the constant care demanded for all floors and it is easy to understand the increased popularity of Murray V-Bak installations.

Murray V-Bak floors are permanent, easy to clean, never need waxing, no scuffing, and Murray V-Bak is guaranteed for "The Life of the Building".

There are many more miles on Murray V-Bak floors.

Write today for details.

V-Bak Quarry Tile gives you all these features:

1. Perfect adhesion
2. Uniform size
3. Uniform color
4. Even texture
5. Smooth surface
6. Low maintenance
7. Lasting service

A.I.A. File No. 23-A-1

*PAT. PEND.

murray TILE COMPANY INC., LEWISPORT, KY.

V-BAK DIVISION OF AMERICAN OLEAN TILE COMPANY

nership in a firm to be known as Rowland and Griswold, Architects, 5 Ives Street, Hamden, Conn.

Marinas Unlimited is the new firm formed by Joseph E. Biro, engineer, and W. A. Tydeman, Jr., architect. They are located at 832 West Lafayette Street, Easton, Penn.

J. D. Dunaj, architect, has opened an office at 6257 Arches Avenue, Chicago 38.

Firm Changes

Robert W. Hegardt, A.I.A., has recently joined the New York firm of Ballard, Todd & Snibbe.

Albert Kahn Associated Architects & Engineers has appointed R. M. Doering as Chief Power Plant Engineer.

A. Whitney Murphy has been elected a partner in the architectural firm of Perkins & Will.

M. Tony Sherman & Associates announce that J. Samuel Garrison has joined their architectural firm as business administrator.

New Addresses

Victor Gruen Associates announces the transfer of their midwestern office from Detroit to Chicago: 222 North Michigan Avenue, Chicago 1.

Evans Woolen, Architect, is now located at 604 Ft. Wayne Avenue, Indianapolis 4.

Walker, McGough, Trogdon, Architects, have moved their office to North Nine Post Street, Spokane 1.

Rosengarten & Kraemer are now located at 1321 Arch Street, Philadelphia 7.

The New York Office of Tito Di Vincenzo, A.I.A., is now 136 East 57th Street, New York 22.

Wiggs, Lawton & Walker, Architects, have moved to a new address at 3285 Cavendish Blvd., Suite 490. Montreal 28, Quebec.

Herbert H. Warman, A.I.A., announces the removal of his office to the Chamber of Commerce Building, Suite 409, 39-01 Main Street, Flushing 54, N. Y.

George E. Stewart, Architect, has moved his office to 110 Genesee Street, Auburn, N. Y.

Krokyn & Krokyn are now located at 184 Boylston Street, Boston 16.

Bertram S. Warshaw has relocated his office for structural and civil engineering to 255 University Drive, Coral Gables, Fla.

Ted Arthur Homa, A.I.A., has removed his office to 25 West 43rd Street, New York 36.

Iron and Steel Plants Plan More Building in 1960

The nation's iron and steel plants are planning to spend $1.6 billion on new equipment and construction during 1960. This would bring to approximately $14 billion the total amount spent on new production facilities since World War II.

The Iron and Steel Institute said this would be the second highest post-war expenditure, the industry having spent nearly $1723 million on enlarging its capacity in 1957. Last year, the companies spent $961 million.

for a wise investment specify a **NATIONAL pool** . . .



• **a life-time pool investment** . . . durable as a wall of rock . . . assembled quickly and at lower cost with National's unique prestressed interlocking concrete units into a triple wall capable of withstanding the severest temperature and other stresses . . .

• **a trouble-free pool installation** . . . sparkling as a mountain brook . . . operated continuously with fully automatic National controls and equipment that assure the lowest possible operating expense . . .

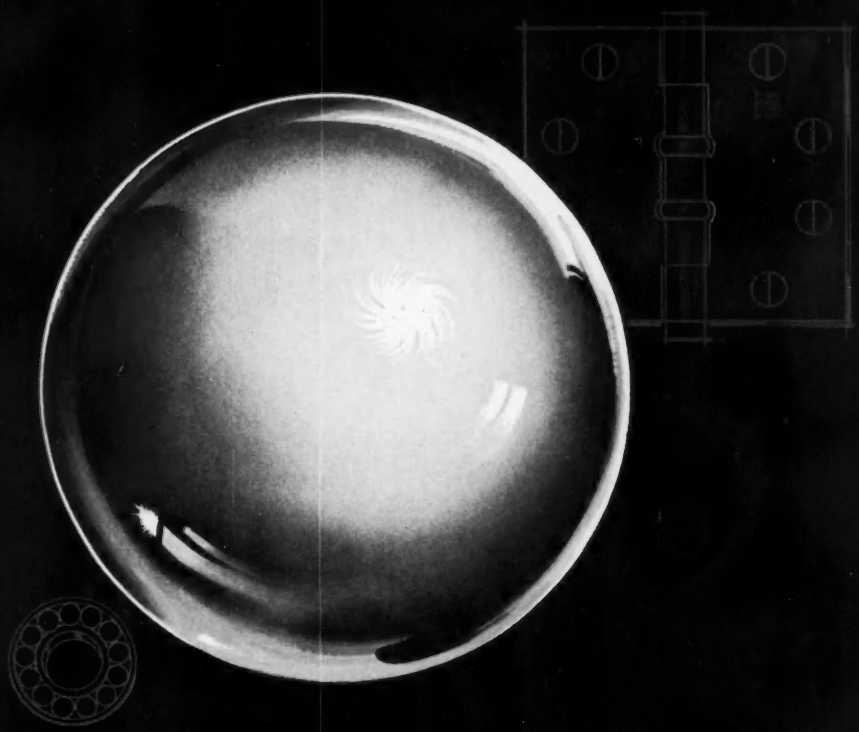
. . . **NATIONAL pools** . . . specified by architects and engineers for America's finest country club, community, hotel, school and military pools . . . widely approved by State Boards of Health . . . produced in a wide range of sizes and shapes to meet your needs . . . fully equipped as required with all filters, heaters, underwater lights, skimmers, chlorinators, fittings, vacuum cleaners, ladders, diving boards, safety equipment and other accessories . . .

the services of our specialized and experienced engineering staff are available to you upon request . . .

NATIONAL POOL equipment co.

Indianapolis, Ind. Florence, Ala., El Monte, Calif.
Sales offices in principal cities

NATIONAL POOL EQUIPMENT CO.
P.O. Box 1101, Indianapolis, Ind.
Please send information on National Prestressed Pools
I am interested in: ☐ BUILDING A POOL ☐ FRANCHISE ☐ EQUIPMENT ☐ FILTERS
Name _____
Company _____
Address _____
City _____ Zone _____ State _____
SW



26*-Jeweled movement

All 26 *Keep Rolling Forever*—not Part of the Time—
in a Hager *"Life-Time Bearing"* Butt Hinge!

The bearings *stay there* for *life!* Upper and lower raceways ride *forever*—on the *full count* of ball *bearings*—in a Hager *Life-Time Bearing* Butt Hinge!

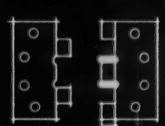
Tough case-hardened steel ball bearing raceways are press-fitted into direct contact with knuckle on Hager ball bearing butt hinges.

No soft brass retaining jacket (or crimped shell) lies between the knuckle and the raceway . . . nothing to eventually wear away and allow the bearings to slip out.

Both raceways and *all* 26 ball bearings are hard at work in Hager Ball Bearing Butt Hinges—in fine jeweled movement—forever providing life-time trouble-free silent door operation.

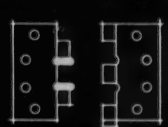
You'd expect finer performance from *Hager* Ball Bearing Butt Hinges, naturally—and naturally, you have a right to!

If it's expected to *stay* for *life*, then, of course
EVERYTHING HINGES ON HAGER!



NOT THIS . . .

One-knuckle-bored construction. Bearings anchored with wear-away brass bushings. (Bearings eventually fall out, when pin is removed.)



BUT THIS . . .

Hager **TWO**-knuckle-bored construction. Bearings anchored with case-hardened steel raceways.

*26 Balls in 4½" x 4½" 2-bearing Butt Hinges

Hager®

EVERYTHING HINGES ON *Hager!* • C. HAGER & SONS HINGE MFG. CO., ST. LOUIS 4, MO., U.S.A.
HAGER HINGE CANADA LIMITED, KITCHENER, ONTARIO

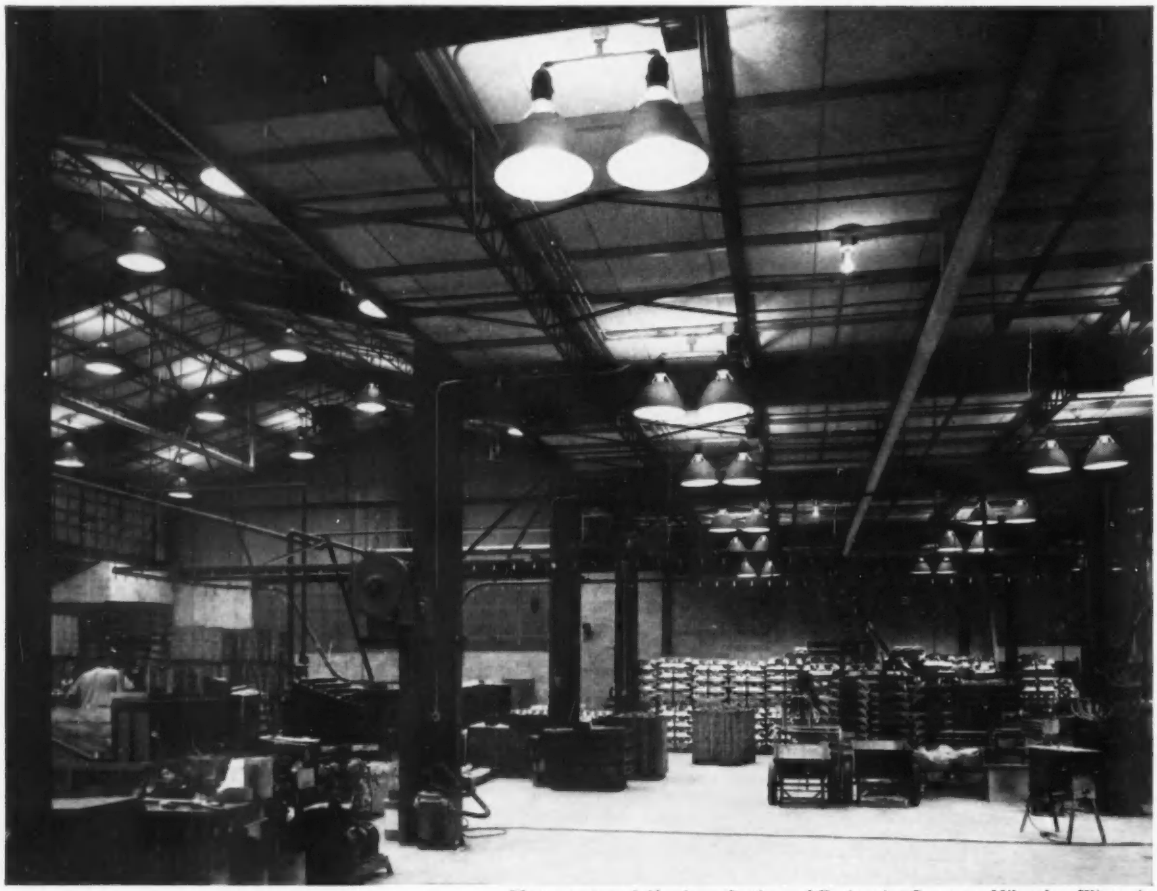


Photo courtesy of Aluminum Casting and Engineering Company, Milwaukee, Wisconsin

225 footcandles!



INSTALLATION DATA

Low bay—Twin-mounted Abolite HMFAU-1800 fixtures with 400 watt color-improved mercury lamps. Mounting height 14', with 13' x 12' spacing. Average footcandle level: 225.

High bay—Abolite HMFAU-2400 fixtures with 1000 watt color-improved mercury lamps. Mounting height 24½', with 13' x 12' spacing. Average footcandle level: 180.

Consulting Engineer:
Trester Engineering Co.

Electrical Contractor:
Bentley-Jost Electric Corp.

Abolite lifts the lighting level—This company makes intricate aluminum permanent mold castings. They wanted a higher level of lighting in their foundry to increase worker efficiency. They got it using Abolite fixtures in what some lighting engineers call the most outstanding mercury lighting installation in the country.

In the low-bay area, there's an average footcandle level of 225, yet there's no glare—both vertical and horizontal surfaces are lighted evenly without any deep shadows. The Abolite fixtures give 35° shielding to lamp, direct 18% of light upward through open top to wash out deep ceiling shadows.

Most important, this system costs less than a comparable fluorescent system because fewer fixtures are needed. Maintenance costs are less, too, because the chimney effect of Abolite's open-top design prevents dirt from collecting on lamp and reflector surfaces. Why not try this system with Abolite fixtures on your next job? For full information, write *Abolite Lighting Division, The Jones Metal Products Company, West Lafayette, Ohio.*

ABOLITE *Lighting*

THE JONES METAL PRODUCTS COMPANY
West Lafayette, Ohio



S. G. House, Beverly Hills.
Original design by Paul Laszlo, A.S.I.D., Beverly Hills, Calif.
Photo © Robert C. Cleveland

for modern perspectives:

Timeless Terrazzo

Terrazzo allows free play to the imagination, permits architects to create effectively, builders to construct enduringly, owners to use relentlessly.

Marble-hard and concrete-durable, Terrazzo lasts as long as the building it serves. Installations in publicly used areas are still in excellent condition after more than 25 years service and the tread of about 400,000,000 feet. Economical maintenance is assured. The smooth, jointless surface consisting of marble (70% or more); and Portland cement (30% or less) offers no place for wear or abrasion to start. Since only wet cleaning is required and refinishing and buffing are eliminated, savings of at least 20c per sq. ft. per year in cleaning cost can be realized.

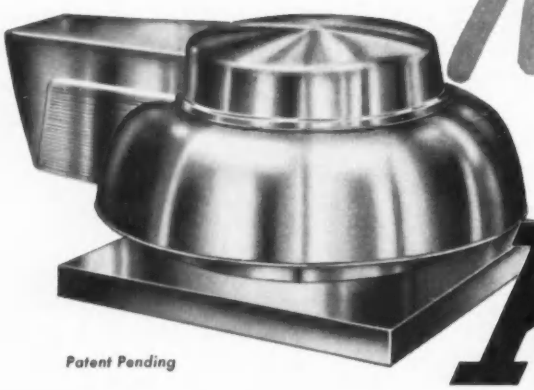
A perfect vehicle for the contemporary lanai illustrated, Terrazzo is equally appropriate in traditional settings—for walls, stairs, wainscots and floors, in virtually any combination of color and design. For detailed information write the Association.

Catalogued in Sweet's. AIA kit sent upon request. National field service association representatives available for consultation.

Member Producers' Council

THE NATIONAL TERRAZZO AND MOSAIC ASSOCIATION • 503 N.A.D.A. Bldg., 2000 K St., N.W., Washington, D. C.

NEW!



Patent Pending

JENN-AIR

Key Line

CENTRIFUGAL & AXIAL POWER ROOF EXHAUSTERS



The KEY to better ventilation

- Maintenance-free all-aluminum housing provides strength without weight.
- Heavy-gauge air impeller is dynamically and statically balanced for quiet operation.
- Prelubricated ball bearing motor.
- Drive bearings feature permanently lubricated and shielded ball bearings.
- Hinged motor mounting and cover provides ready access for wiring.
- Belts run on adjustable pulleys with long drive centers for longer wear . . . automatic tightening device assures constant fan speed.
- Built-in bird guards.
- 70 models in a capacity range from 725 to 27,000 cfm.

Full details and specifications on Jenn-Air KEY LINE Exhausters are contained in two new four-page bulletins. Bulletin 60-CK covers centrifugal models; Bulletin 60-AK axial. Write for your copies today.

Lowest contour of any spun aluminum unit with motor and drive out of air stream!



JENN-AIR

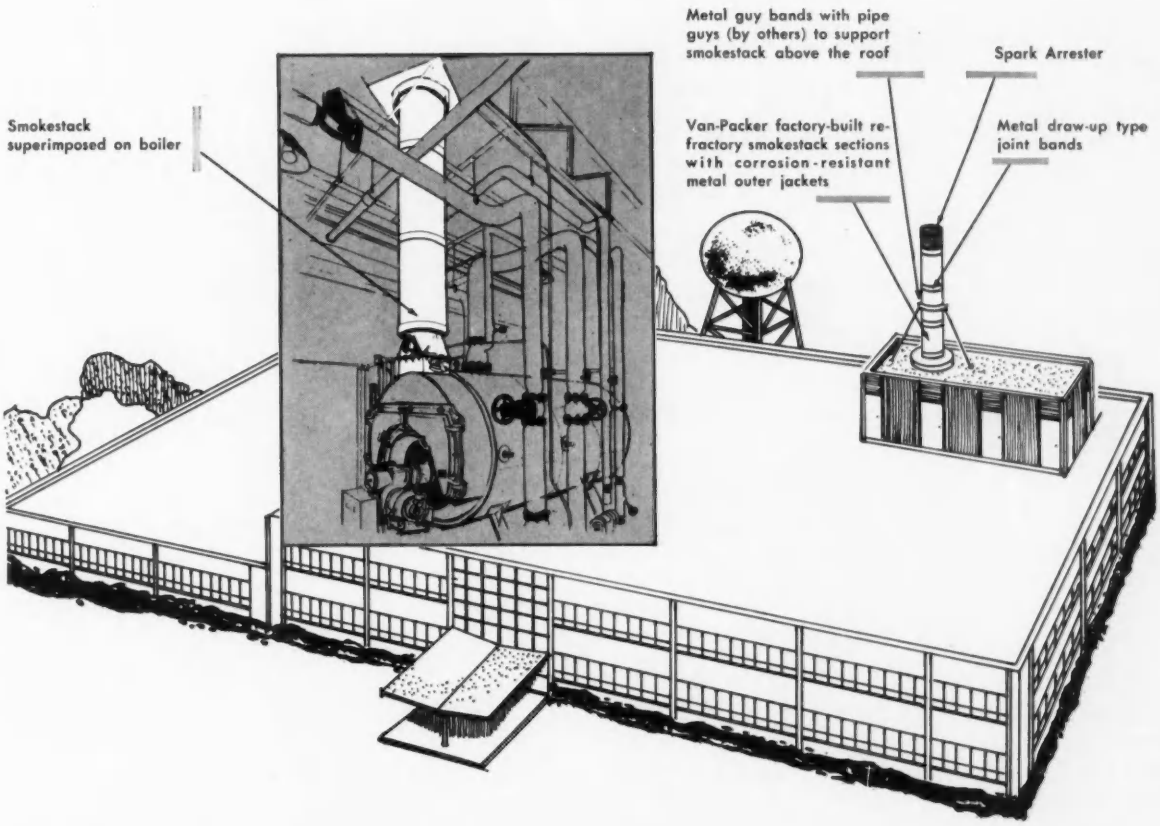
JENN-AIR PRODUCTS COMPANY, INC.

Member Air Moving and Conditioning Association (AMCA)

General Offices: 1102 Stadium Drive, Indianapolis 7, Indiana

LEADER IN FUNCTIONAL IMAGINEERING

Flintkote • Van-Packer factory-built refractory smokestack outlasts steel stacks, costs no more



The Van-Packer Model HT Smokestack is the *only* industrial stack listed under the Factory Inspection and Label Service Program of Underwriters' Laboratories, Inc. It handles boilers, furnaces and incinerators. Van-Packer Smokestacks consist of factory-built 3-foot refractory sections with corrosion-resistant metal jacket and fittings. They cost about the same as steel stacks for comparable applications, yet last far longer. They require no painting or maintenance. Van-Packer Smokestacks are available in eight inner diameters: 10″, 12″, 15″, 18″, 21″, 24″, 30″, and 36″. See "Smoke Stacks" in the Yellow Pages for your nearest Van-Packer Distributor/Erector, or send coupon for full information.

FLINTKOTE

VAN-PACKER®

Division of The Flintkote Company

Manufacturers of Diversified Products for Home and Industry

30 Rockefeller Plaza, New York 20, N. Y.
Phone: PLaza 7-5500

In the West:
Pioneer Division, The Flintkote Company
P. O. Box 2218, Terminal Annex, Los Angeles, Calif.

In Toronto, Ontario:
The Flintkote Company of Canada, Ltd.



The Flintkote Company
Van-Packer Division
30 Rockefeller Plaza
New York 20, New York

Please send Bulletin IS-40 containing complete information and engineering data on Van-Packer Smokestacks.

My name _____

Firm _____

Address _____

City _____ Zone _____ State _____

The next time you're in Philadelphia take a good look at the

Einstein Medical Center ... another installation with



The Einstein Medical Center (Northern Division).

Take a good look at the clean, simple lines of this striking monument to modern-day medicine. Notice how beautifully everything fits—the synthesis of approximately 11,400 sq. ft. of LUPTON Type "H" curtain-wall units, 549 LUPTON "Master" projected aluminum windows, and 732 LUPTON double-hung aluminum windows with the overall architectural concept of the building.

Functionally, LUPTON aluminum construction is consistently economical. All parts are accurately prefabricated and delivered on schedule for simplified, routinized assembly. And lightweight LUPTON construction lowers foundation and framework costs. You get more usable floor space . . . save on maintenance.

Most advantageous of all, though, is LUPTON's dependability. As proven in hundreds of jobs—including the largest aluminum curtain-wall installation in the world—you can depend on LUPTON to meet your specifications, to deliver as scheduled. You can pinpoint responsibility, because LUPTON can do the whole job—even install!

See SWEET'S (Sections 3 and 17) for the Michael Flynn Aluminum Curtain Wall and Window catalogs, and write for further specific information. Inquire about LUPTON Comfort-Conditioning*—the new curtain-wall system that cools, heats, and ventilates. A call to the nearest LUPTON representative (see the Yellow Pages under "Windows—Metal") will bring fast action without obligation.

*Trade Mark

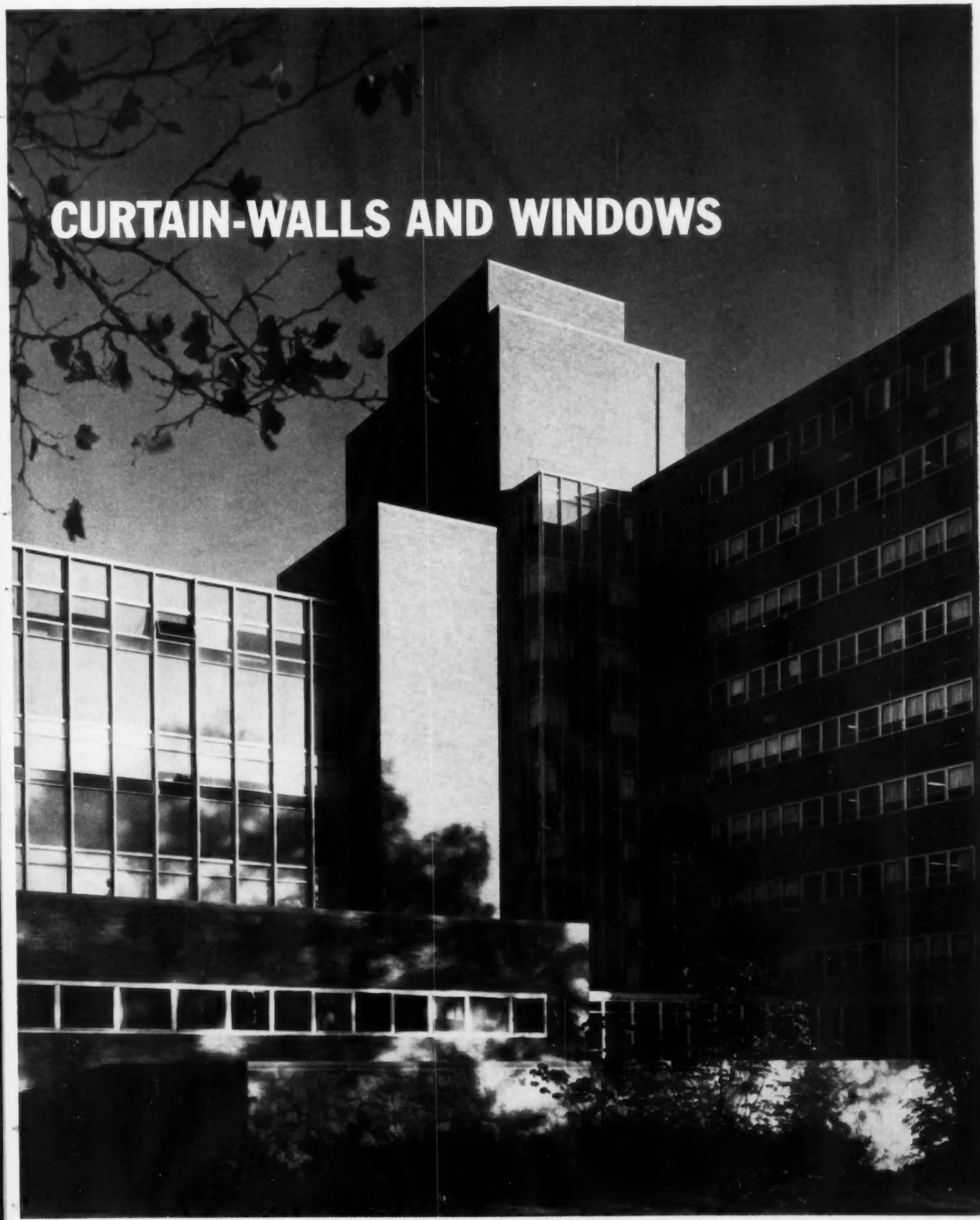
LUPTON®

METAL WINDOWS • CURTAIN-WALLS

MICHAEL FLYNN MANUFACTURING CO.

Main Office & Plant: 700 E. Godfrey Ave., Philadelphia 24, Pa.; West Coast Plant: City of Industry, Calif. (Los Angeles County); Stockton, Calif.; Chicago, Ill.; New York, N.Y.; Cincinnati, Ohio; Cleveland, Ohio; Dallas, Texas. Representatives in other principal cities.

CURTAIN-WALLS AND WINDOWS



Broad Street and Tabor Road, Philadelphia, Pa. Architect: Abraham Levy, Philadelphia. Contractor: James McGraw Co., Philadelphia.

Washington Topics

continued from page 56

Sweeping Changes Proposed in Architectural Education

Robert F. Hastings, executive vice president, treasurer and director of the architectural firm of Smith, Hinchman and Grylls Associates, Inc., Detroit, voiced some controversial criticisms of architectural education in Washington, D. C., a few weeks ago. He was addressing a construction industry conference sponsored by the Construction and Civic Development Department of the United States Chamber of Commerce.

The quickly changing needs of the building industry are imposing new demands on the architect and both the curricula in architectural schools and the attitudes of the practicing architect are failing to keep pace, he charged.

The result: the building industry suffers in efficiency and prestige.

Should the colleges adopt such a program, the profession itself must then be ready to accept the graduates as equal members of the design team, he said. It is his belief that the architectural profession is not now ready to receive "this new group, either at a level of equality or recognition with [the] professional societies, nor yet with the financial reward and public acceptance which their oftentimes 40 per cent contribution to the finished structure should command."

He contends that the building industry needs from its architects materially expanded functional skills in mechanical and electrical systems, as well as structural knowledge.

Mr. Hastings asserted that "Not in almost 50 years has so wide a cleavage developed between the architect and the allied engineers. More dramatically, the cleavage is occurring at a time when the interrelation between these men, with mutual interest in structure and sympathy for each other's objectives and viewpoints, is more necessary than in any previous period in the history of the building industry, for today the interrelated engineering phase of a structure represents 40 per cent to 50 per cent of the whole. However, the individuals charged with the execution of it are not affording the proportion of education or recognition."

If a student wishes a sound education in the engineering arts, he now must turn to the engineering colleges where there is little interest in the building structure, Mr. Hastings maintained. He added that today's engineers are being prepared to build missiles and space ships, but are not being educated to build the very factories where such vehicles and devices must be manufactured.

He proposed the establishment of a six-year course. The first three years would be devoted to a sound architectural background. The latter three could be spent on specialities within the field of design, along structural and building equipment lines; in community planning, landscape architecture; and the allied arts.

A.G.C. Launches New Effort To Curb Bid Shopping

The new recommended procedures for curbing bid shopping and ped-

continued on page 336

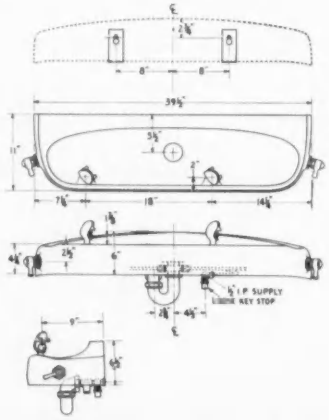
2 BUBBLER BEAUTY



HAWS MODEL 10F

IN COLORFUL FIBERGLASS

DECORATOR 5 COLORS



An accent of color with the graceful sweep of clean design – that's the new HAWS 2-bubbler Model 10F! Patterned after the popular Model 10Y (3-bubbler fiberglass model), this tough, vacuum molded fiberglass plastic unit is equipped with HAWS exclusive anti-squirt, vandal proof fountain heads. All visible trim is chrome plated. Select white or any of *five* decorator colors at no extra cost.

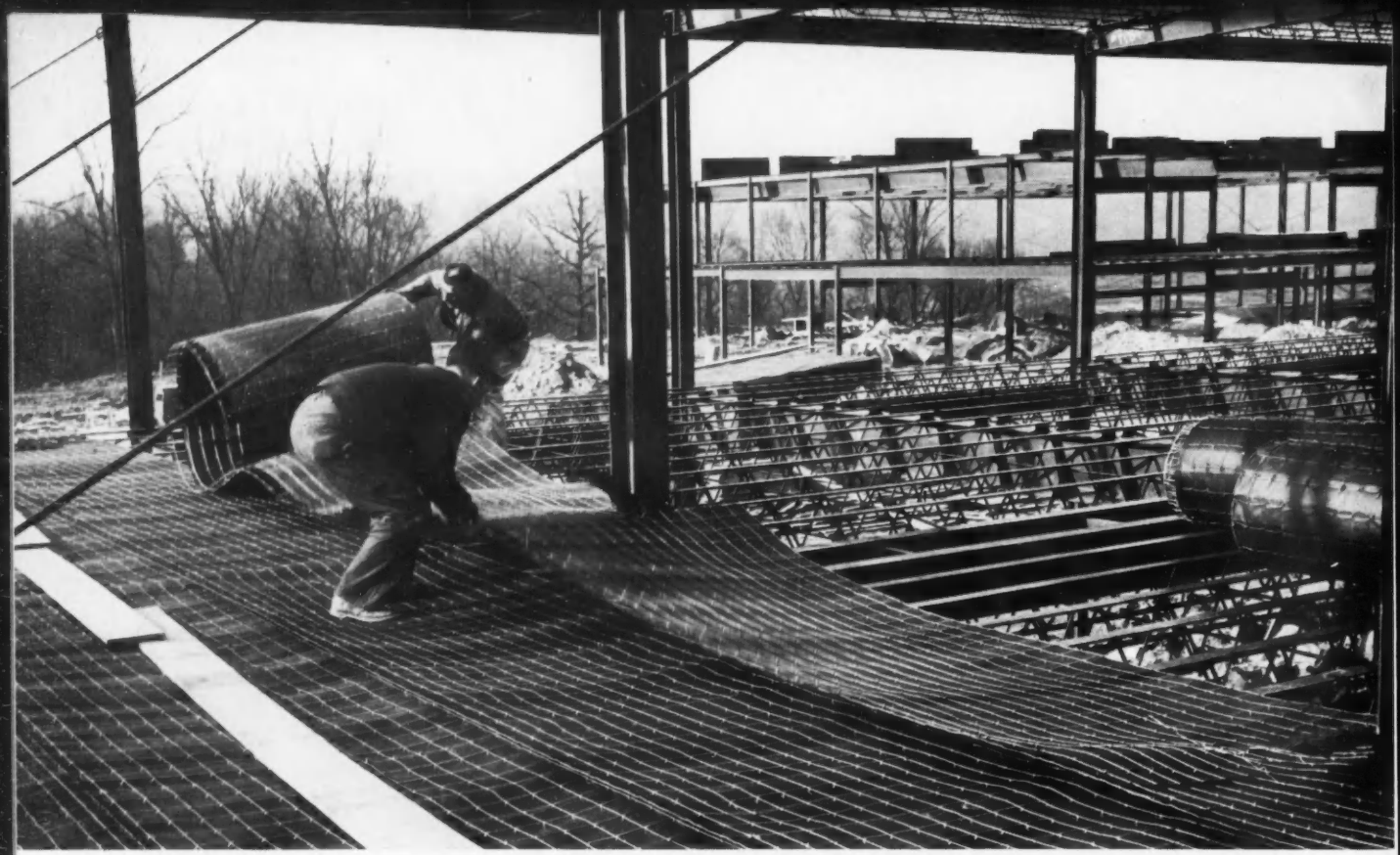
•

For details on HAWS' full line, write for the latest catalog – or check your Sweets File.

HAWS DRINKING FOUNTAINS

Products of HAWS DRINKING FAUCET COMPANY
1441 Fourth Street, Berkeley 10, California
Export Dept.: 19 Columbus Ave., San Francisco 11, California


No wonder I get ulcers.
18 experts on the school board.
And they all want something different.
Take the floors.
Something resilient . . .
easy to maintain . . .
long lasting . . .
colorful . . .
quiet . . .
and on that budget.
What they need . . .
THAT'S IT!
WRIGHT RUBBER TILE
Wright Rubber Tile has been helping architects solve knotty problems for more than thirty years. And today Wright quality is at its finest. If you haven't seen samples of Wright's new Contemporary Colors, drop us a note on your letterhead today. They're the freshest colors you've seen in years.
WRIGHT a product of MASTIC TILE DIVISION The RUBEROID Co.
Houston, Tex. · Joliet, Ill. · Long Beach, Calif. · Newburgh, N. Y.
Rubber and Vinyl Tile



Quickly, easily Steeltex goes down at superbly designed Canevin High School, Pittsburgh, where 60,000 square feet of Steeltex support concrete floor slabs. Architect: Celli-Flynn, McKeesport, Pa. Contractor: Navarro Corp., Pittsburgh. Steeltex from Pittsburgh Steel Co. was specially commended for its installation features on this project.

Architect, Contractor Find . . .

Steeltex Saves 35 Cents per Square Foot

"I estimate we saved about 35 cents per square foot by using Steeltex instead of another material on the Baptist Hospital addition in Pensacola. Steeltex' quick installation also helped us meet our construction timetable easily."

Man speaking: President Raymond C. Dyson of Dyson and Company, Pensacola, Fla., general contractors.

Job: $1¾-million addition to Baptist Hospital. Here, Pittsburgh Steel Company supplied 70,000 square feet of Steeltex, the waterproofed, paper-backed wire mesh reinforcing used in the concrete floors and roof slabs.

Like Mr. Dyson, Architect Charles H. McCauley has used Steeltex for more than 20 years. He, too, knows Steeltex helps provide better construction at lower costs.

"I specified 100,000 square feet of Steeltex when the main hospital building was erected eight years ago," said Mr. McCauley. "Naturally, I specified it again when the addition was built. I think this shows I am enthusiastic about the qualities of Steeltex."

• **Cost 30-40 Percent Less**—Similar comments came from Cleveland where Architect Eugene W. Gray and Contractor William Passalacqua were responsible for constructing the new $600,000 Child Welfare Division Building.

Mr. Gray and O. E. Kronenwetter, chief engineer for Passalacqua Builders, estimated that 30,000 square feet of Steeltex in floor slabs cost 30 to 40 percent less than methods generally specified.

• **On Pittsburgh Job**—When Steeltex was combined with Pittsburgh Steel's wire mesh to support 60,000 square feet of concrete floor slabs at Canevin High School in Pittsburgh, Steeltex was specially commended for its installation features.

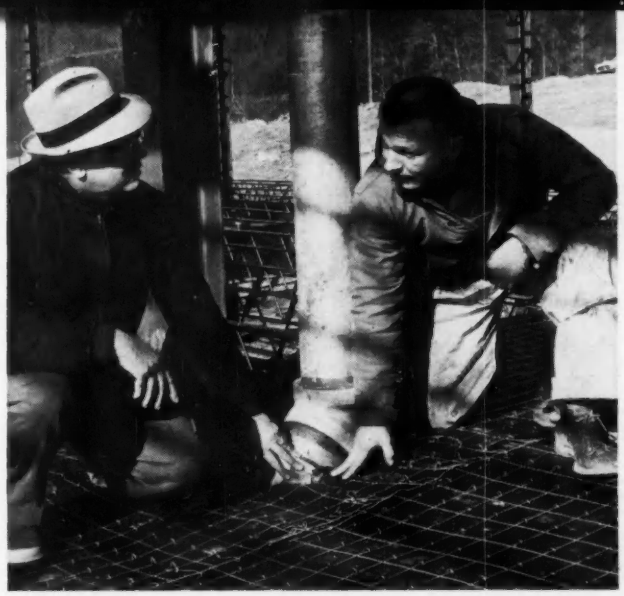
Joseph V. Cutuly, job superintendent for the general contractor, Navarro Corporation of Pittsburgh, likes Steeltex because "it takes more punishment during installation than a sheet metal, goes down faster and is much easier to handle."

Dean Regan, foreman of the crew that installed Steeltex in the $2½-million building, has used Steeltex on more than 55 jobs in ten years.

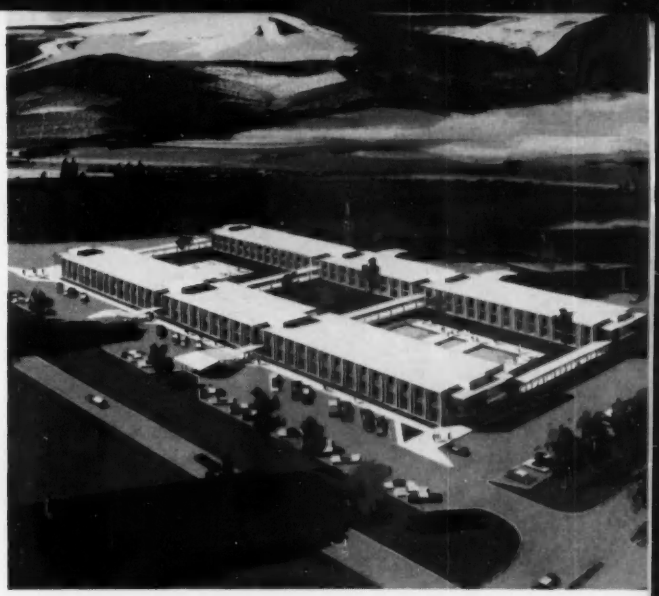
"Steeltex is very easy to install. Just unroll it, cut, tighten and clip," he said.

• **Makes Stronger Slab**—William B. Tabler of New York City, architect for the $2½-million Hilton Inn at the San Francisco Airport where 65,000 square feet of Steeltex supports the floors, pointed out additional Steeltex features. Said Mr. Tabler:

"Steeltex retains moisture and cement to a greater degree than lath. This makes a cleaner job. Also, the sag from the concrete cradled in the Steeltex gives additional lateral resistance which aids earthquake construction."



Snug fit of Steeltex around drain pipe at Canevin High School is shown by Joseph V. Cutuly, job superintendent (l.), and Foreman Dean Regan. Mr. Cutuly says, "Steeltex takes more punishment during installation than a sheet material, goes down faster and is much easier to handle."



At luxurious Hilton Inn, San Francisco Airport, 65,000 square feet of Steeltex in floor slabs aid earthquake construction. Architect: William B. Tabler, New York City. Contractor: Cahill Construction Co., San Francisco.

• **New Users Like Steeltex**—Steeltex also is endorsed by new users such as the architectural firm of Charles Bacon Rowley and Associates, Inc., and Ernst Payer, and Contractor Albert M. Higley Company, both of Cleveland. They teamed up on building the $805,000 Western Reserve Historical Society Museum in their city.

Superintendent Albert M. Higley Jr. estimated "perhaps a four percent savings was realized by using 11,500 square feet of Steeltex instead of placing conventional roof structures."

• **Will Use Again**—Another satisfied new user is Irving D. Robinson, architect for the new $325,000 Luria Brothers Building in Cleveland.

Mr. Robinson said: "This is the first time I specified Steeltex and I am sure I will use it many times again. Steeltex permitted work to continue on the floors without planking or scaffolding, although the concrete slab was not poured for many weeks after the 12,000 square feet of Steeltex were installed." Contractor for the job was J. L. Hunting Company, Cleveland.

Whether you are a veteran Steeltex user or a newcomer, you cannot afford to pass up using Steeltex on your next construction job.

Trained sales engineers are available to help solve your construction problems. Put them and Steeltex to work for you soon.

Contact the nearest Pittsburgh Steel Products sales office listed at right. Call today . . . you'll be glad you did.



$24,500 was saved on cost of material and labor by using 70,000 square feet of Steeltex in the Baptist Hospital addition in Pensacola. Architect: Charles H. McCauley, Birmingham. Contractor: Dyson and Company, Pensacola.

▶ See Sweets Catalog Section 2-B

Steeltex®

Pittsburgh Steel Products

a division of Pittsburgh Steel Company

Grant Building • Pittsburgh 30, Pa.

DISTRICT SALES OFFICES

Atlanta	Cleveland	Detroit	Los Angeles	Pittsburgh
Chicago	Dayton	Houston	New York	Tulsa
			Philadelphia	Warren, Ohio

RIGHT

FOR YOUR FINEST BUILDINGS



Strikingly different in its clean, functional styling, the superbly engineered new Oasis On-A-Wall Water Cooler adds quality to every modern building.

You add richness to any decor, for the On-A-Wall is the first water cooler to have a cabinet of 20 gauge steel with mar-resistant Vinyl Laminate exterior in Silver Spice color. Its crisp, modern look is enhanced by the recessed anodized aluminum grille with its sleek basketweave pattern.

Practical, too, because it's off the floor... easy to clean around. The Oasis On-A-Wall Water Cooler is mounted flush with the wall to save space and conceal plumbing.

Yet at a touch of the famed Dial-A-Drink bubbler that's built like a fine watch, Oasis engineering goes to work to supply never-failing, refreshing cool water. Oasis engineering has the finest record of trouble-free performance in the industry.

With the highest anti-splash back of any off the floor cooler, the On-A-Wall has a stainless steel top and deep basin with anti-splash ridge. It's easily mounted, and is available with capacities of 7 and 13 GPH.

Write for handsome 4-color Architect Album assembled especially for architects and engineers. It has complete specifications on Oasis—America's finest and most complete line of water coolers. Or look in Sweet's AIA File No. 29-D-42.

OASIS

WATER COOLERS

The Ebco Manufacturing Co., Dept. 7-P, Columbus 13, Ohio

Manufacturers of the most complete line of water coolers. Distributed in Canada by G. H. Wood & Co., Ltd.

GOLDEN ANNIVERSARY 1910 50 years of Progress 1960



Steel pipe was first choice at Travelers Insurance Company after performance/cost actuarial tables showed the facts

Evaluated on the basis of performance, service life, original cost, installation cost—calculation showed that *steel pipe* could best serve the new Travelers Life Insurance building in Boston for vent and drainage lines, the fire protection sprinkler system and stand-pipe fire lines.

The cost of *steel pipe* when related to the performance advantages was truly significant. And, the savings in initial cost and installation cost were considerable. But these facts are true in most *steel pipe* applications . . . for *steel pipe* is the least expensive and most versatile of all tubular products.

These are the reasons why *steel pipe* is the most widely used pipe in the world for fire sprinkler systems, water transmission lines, vent and drainage lines, structural applications, radiant heating, snow melting, refrigeration, ice making, gas, and air lines, and for electrical conduit.



Simple equipment and tools make steel pipe easy to install anywhere.

STEEL PIPE IS FIRST CHOICE

- Low cost with durability
- Strength unexcelled for safety
- Formable—bends readily
- Weldable—easily, strongly
- Threads smoothly, cleanly
- Sound joints, welded or coupled
- Grades, finishes for all purposes
- Available everywhere from stock

INSIST ON PIPE MADE IN U.S.A.

COMMITTEE ON STEEL PIPE RESEARCH

150 East Forty-Second Street, New York 17, N.Y.

Chicago's newest prestige building . . . . . .

The HARTFORD *Building*

new concept in space and dignity . . .

served by *electronically controlled*

Haughton Auto-Signamatic

operatorless Elevator System

Destined to become *the* Chicago landmark, the Hartford Building at 100 South Wacker Drive will provide regal surroundings and facilities for tenants and visitors.

A case in point: thirteen Haughton Operatorless Elevators with the latest automatic electronic controls will speed passengers from floor to floor with silken smoothness. They will be motivated by an amazing electronic brain that anticipates service needs at every moment, day and night, and dispatches cars at the proper times and in proper sequence to meet traffic needs exactly.

Of course, operation of Haughton Operatorless Elevators is simplicity itself. One merely enters the car and presses the numbered floor button. Doors open and close automatically at floor level, with unfailing consideration for passengers. They are controlled by proven devices of ingenious design that help make Haughton Operatorless Elevators the safest mode of floor to floor travel.

The Hartford Building . . . to be occupied in part by the Western Department of the Hartford Fire Insurance Company Group. From its unique exterior, creating a functional design accented by simple charm, to its superb location and superior facilities, this beautifully planned building carries its tasteful design throughout . . . The twenty floors are arranged for purposeful planning and unexcelled utilization of floor space. Windows are shielded from direct sun rays by the canopy effect created in the exterior design, a first in this country . . . The landscaped esplanade and spacious lobby provide an exciting vista, while building features combining the ultimate in fluorescent lights, automatic elevators, year 'round temperature control, under floor ducts for electrical and telephone equipment and other innovations make The Hartford Building an unparalleled office home for any organization.



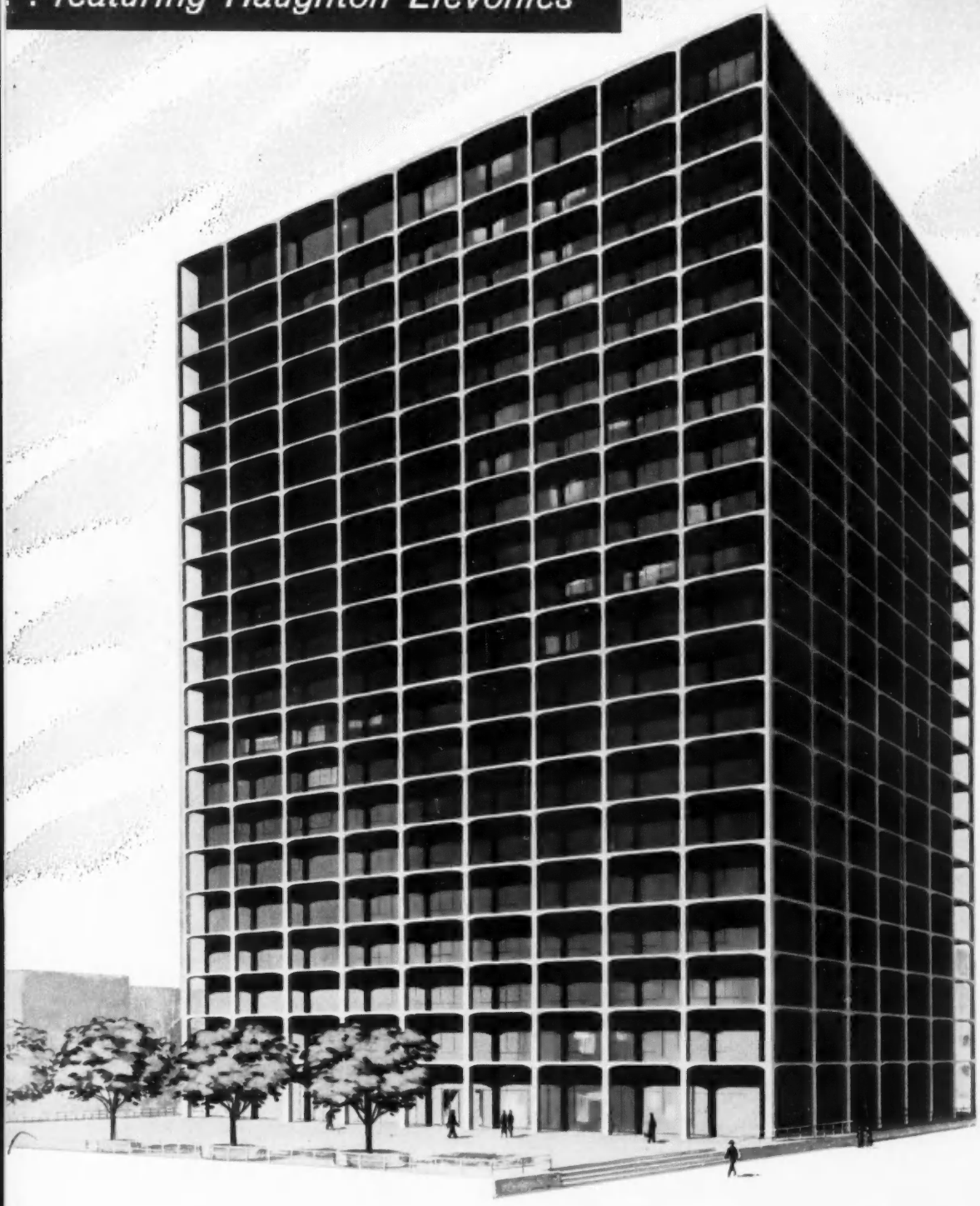
EMBLEM OF EXCELLENCE IN VERTICAL TRANSPORTATION

* *Haughton's advanced program in elevator systems research and engineering, with specific emphasis on the creative application of electronic devices and instrumentation for betterment of systems design and performance.*

Haughton
ELEVATOR COMPANY

DIVISION OF TOLEDO SCALE CORPORATION
Executive Offices and Plant, **TOLEDO 9, OHIO**

. . featuring Haughton Elevonics*



Architects and Engineers:
SKIDMORE, OWINGS & MERRILL

Building Construction:
GEORGE A. FULLER COMPANY

Leasing Agent:
ARTHUR RUBLOFF & CO.

dling practices in the construction industry were rejected by the National Association of Plumbing Contractors even before the Associated General Contractors of America had disposed of the matter at its annual convention in San Francisco.

These suggested procedures, involving a bid and price listing formula, were put into their final form by the National Joint Cooperative Committee of the A.G.C. and the Council of Mechanical Contracting Industries, Inc., the latter representing four major subcontracting groups of which N.A.P.C. is not one.

(The A.G.C. at San Francisco decided to make no recommendations to the national American Institute of Architects and to push the plan in its local chapters only where subcontractor cooperation was assured.)

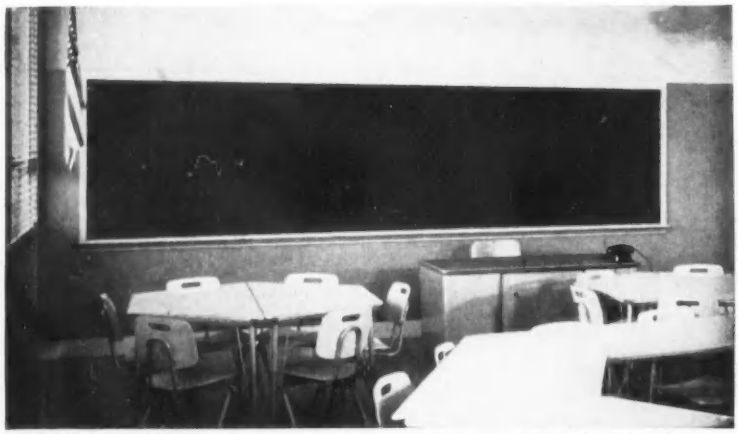
The plumbing contractors long have been on record for the separate contract method of building, whereas the general contractors support the single contract system as one of the cornerstones of their announced principles.

The architect has been caught in the middle of the crossfire to the extent that both factions have from time to time considered the architects' support for their positions. One of the original points in the recommended procedures was a proposal that the Institute review the plan and recommend its adoption by A.I.A.'s local chapters.

But, as with many association structures, the A.I.A. chapters have an autonomous identity and anything bordering on dictation by headquarters is not acceptable.

The national joint committee had urged that local A.I.A. chapters incorporate into their bid forms and instructions to bidders a requirement that subcontractors be listed on all building construction contracts.

Much more will be heard of the effort, and its attempt to include the architectural profession, in the months ahead.



West Springfield High School West Springfield, Mass. Arch., Warren H. Ashley West Hartford, Conn.

NATURAL SLATE CHALKBOARDS

. . . because young eyes deserve the best!

Trend setting in every detail! That's the new West Springfield High School. And blending perfectly with the contemporary feel of its classrooms are natural slate chalkboards. A wise choice because slate's neutral color provides the right balance with modern decor's strong, gay colors. But there's more to the choice of slate than mere color harmony. For of all chalkboards, slate communicates best. Only white chalk on slate produces the desired high contrast necessary to permit young eyes to see and grasp the written message instantly. Only slate is so easy to clean . . . durable . . . and so low in annual maintenance cost. That's why leading schools, like West Springfield, continue to specify natural slate . . . quarried in Pennsylvania.

for information on specific properties of slate, write:

NATURAL SLATE BLACKBOARD CO.
THE STRUCTURAL SLATE CO.
Pen Argyl, Pa.

natural slate . . . 500 million years in the making

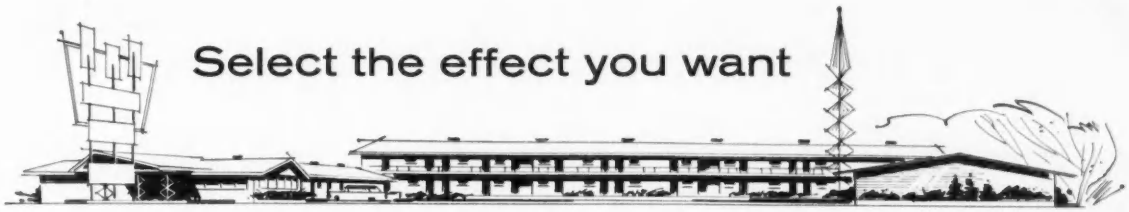


More or Less U. S. Aid for Pollution Control Facilities?

Congressional refusal to pass over Presidential veto the bill providing increased assistance from the Federal government for construction of water pollution control facilities has stirred up protest statements in many quarters. Latest among these was that of Senator Hart of Michigan, who predicted this country would have to spend some $171 billion in the next 15 years for water resources development. As for the President's veto, Senator Hart commented, "It is a completely incomprehensible position to anyone familiar with the performance of state and local governments under the existing law, a law which has provided an outstanding example of intergovernmental cooperation to help solve a national problem vital to the national welfare and which H. R. 3610 would have continued and expanded."

The Michigan legislator suggested the Congress decide what it wants to do, then come up with the funds to do it. He supported a bill to establish a joint committee on resources and conservation with advisers in the White House, and a joint committee

continued on page 344



Select the effect you want

...then achieve it with Masonite Sidings



Effective expression of any architectural style need not be limited by lack of suitable materials. For example, many designers today look to Masonite exterior products to help them achieve a desired effect that will harmonize with the over-all architectural treatment. This is possible because of the wide range of styles, patterns and textures now available.

Shown above is Masonite® Panelgroove®, a sharp, clean, vertically grooved panel effectively used as the siding above the masonry and as the fascia along the canopies. Its outstanding durability, its exceptional resistance to physical abuse and extreme weather such as hail and sleet, and its defect-free, paint-holding surface are features in common with other Masonite sidings.

Sweet's Catalog files contain information on all Masonite exterior products: Lap Siding, Shadowvent®, Sunline, Ridgeline®, Panelgroove and Ridgegroove®. One or more of them will help you achieve the effect you want. For further information, write direct to us. Masonite Corporation, Dept. AR-5, Box 777, Chicago 90, Ill. In Canada: Masonite Corporation, Gatineau, Que.

MASONITE® CORPORATION

®Masonite Corporation—manufacturer of quality panel products for building and industry.


FITS FLUSH TO WALL
12½"
LEAVES 6 TO 10 INCHES MORE SPACE FOR TRAFFIC THAN COOLERS WITH EXPOSED PLUMBING
MODEL WL7D—7 GPH capacity
MODEL WL11D—11 GPH capacity
Dimensions: 12½" deep, 15" wide



NEW "CLEAN LOOK" IN WATER COOLERS!

WESTINGHOUSE ON-THE-WALL COOLER

Hides unsightly plumbing—makes floor cleaning easier!

This slim, smartly styled "Wall Line" Water Cooler offers special advantages not found in conventional coolers. A real space-saver, it extends only 12½ inches from the wall. Other coolers with exposed plumbing jut out from 6 to 10 inches further.

By completely enclosing unsightly plumbing, the new Westinghouse ends cleaning problems. There's nothing to catch trash under or behind it—nothing to become scuffed. Units may be installed at any desired height. When they're mounted on the floor, the bubbler's just right (31 in.) for children. The new Westinghouse On-the-Wall Cooler is one of a line that gives you complete flexibility in cooler placement—flush to wall . . . on the wall . . . and in the wall. For full information, call your Westinghouse Distributor, listed under "Water Coolers" in the Yellow Pages. Or fill in and mail the coupon to us.

Specify Electric Water Coolers for school use —only slightly higher than nonrefrigerated wall fountains.

YOU CAN BE SURE...IF IT'S

Westinghouse

WESTINGHOUSE ELECTRIC CORP.,
Water Cooler Department
Columbus, Ohio
Gentlemen: Please send full information on your new "Wall Line" Water Coolers.

NAME_____

COMPANY_____

ADDRESS_____

CITY/ZONE_____ STATE_____

AR-5



chicago's most distinguished apartments

DECORATED WITH DEVOE PAINTS

1150 Lake Shore Drive Apartments Architects: Hausner & Macsai Painting Contractor: J. M. Eckert Co. Rental Agents: Lake Shore Management Co.

From mosaics to pottery, fabrics to drapery, in every detail the new 1150 Lake Shore Drive Apartments are swank, modern, luxurious. Inside and out they're a tribute to Chicago's beautiful and famous lake front area. And we feel it is a tribute to Devoe paints that they were selected for the interior decoration.

But our service to architects goes beyond the inherent beauty and quality of Devoe paints. Our color consultants and architectural representatives will serve you free and without obligation. They'll assist your specification writer or color specialist. Or, if you wish, they'll prepare your complete color plan.

For industrial plants and tracts, office and apartment buildings, hotels and institutions, they'll carefully analyze costs, lighting problems, traffic, usage, maintenance, and durability as well as color and paint formulation. They'll save you time, costs, and details. Make your color presentations to show your clients. Build you a color reference library. All free and without obligation.

Deveo's consultants are located in major cities throughout the country. Just write: Devoe Color Consultation Service, Devoe & Raynolds Company, Inc., Louisville, Ky.

FREE! A paint reference guide for every job. Plus special color guides for practically every type of building. Write today for your copies.

206 years of paint leadership

DEVOE PAINT

DEVOE

DEVOE & RAYNOLDS CO., Inc.

a subsidiary of Merritt-Chapman & Scott Corp.

ATLANTA • BOSTON • CHICAGO • CINCINNATI • DALLAS • DENVER • LOS ANGELES • LOUISVILLE • NEW YORK • PHILADELPHIA



stainless steel

No other metal has the strength, beauty and versatile qualities that serve you so well today and promise so much for tomorrow.

There is nothing like stainless steel for HOMES AND HOME PRODUCTS

McLouth Steel Corporation,
Detroit 17, Michigan

Manufacturers of high quality Stainless and Carbon Steels

Look for the **STEELMARK** on the products you buy.

Stainless Steel

McLOUTH STAINLESS STEEL



Orbit Department Stores, Inc.
Dorchester (Boston) Massachusetts.

Architect: William Krokyn
Boston, Massachusetts

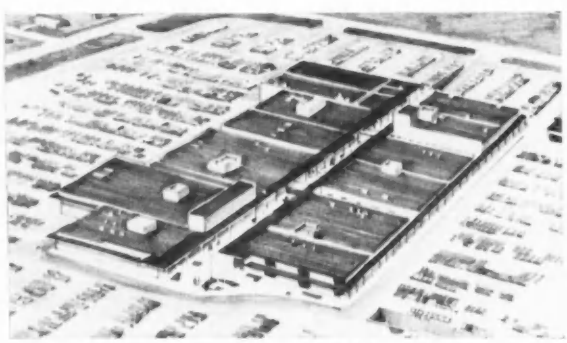


Shamrock Shopping Center
Decatur, Georgia.

Architect: Finch, Alexander, Barnes, Rothschild, and Pascal, Atlanta, Georgia.



18 ACRES OF



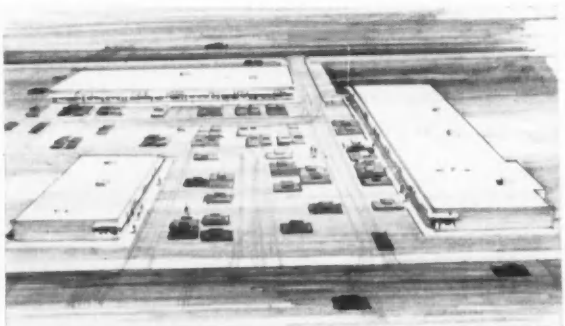
Blue Ridge Shopping Center
Kansas City, Missouri

Architect: J. F. Lauck Associates
Kansas City, Missouri



Mid-City Plaza Shopping Center
North Tonawanda, New York

Architect: John G. Schwartz
Buffalo, New York



Sandy Springs Shopping Center
Sandy Springs, Georgia

Architect: Ivey Enterprises
Atlanta, Georgia



Southgate Plaza Shopping Center
West Seneca, New York

Architect: Joseph J. Geigand
Buffalo, New York



NEW BUILDINGS...

protected by Gold Bond Poured Gypsum Roof Decks

There's *extra* fire protection in these new shopping centers because their roof decks are of poured gypsum. This monolithic slab of gypsum rock contains nature's own water supply—water of crystallization. It can't be seen or felt, but it's there... and no fire can pass through the gypsum slab until this water has been driven off. Official tests on 2½" gypsum slabs prove fire endurance in excess of *two hours.*

Other advantages to a Gold Bond Poured Gypsum Roof Deck:

1. Extra strength: When complete, it forms a solid, steel-reinforced slab, adding structural strength to the building.

2. Reinforcing wire mesh and bulb tees allow movement due to temperature changes *without* disturbing the base for built-up roofing.

3. Uplift forces of up to 125 lbs./sq. ft. can be resisted when bulb tees are welded to the main purlins and embedded in gypsum concrete.

Ask your Gold Bond® Representative about the unique advantages of a Poured Gypsum Roof Deck—or write Dept. AR-560 for complete technical information.

NATIONAL GYPSUM COMPANY, BUFFALO 13, NEW YORK

Gold Bond BUILDING PRODUCTS

a step ahead of tomorrow

in Congress to appraise annually the nation's resource development needs.

He made the point that these programs are not going to be cheaper next year or five years hence. The cost sometimes increases by millions of dollars through postponement, he said.

The bill vetoed by the President and killed when the House refused to over-ride by a vote of 249 to 157 (22 short of the two-thirds majority) would have boosted the present assistance program to a total $900 million in Federal aid for construction of water pollution control facilities. The grants would have increased from the present $50 million per year to $90 million over a 10-year period.

Vetoing the measure, Mr. Eisenhower took the view that water pollution is a uniquely local problem. The primary responsibility for handling the question lies with state and local governments,, he maintained. "The Federal government can help," the message stated, "but it should stimulate state and local action rather than provide excuses for inaction, which an expanded program would do."

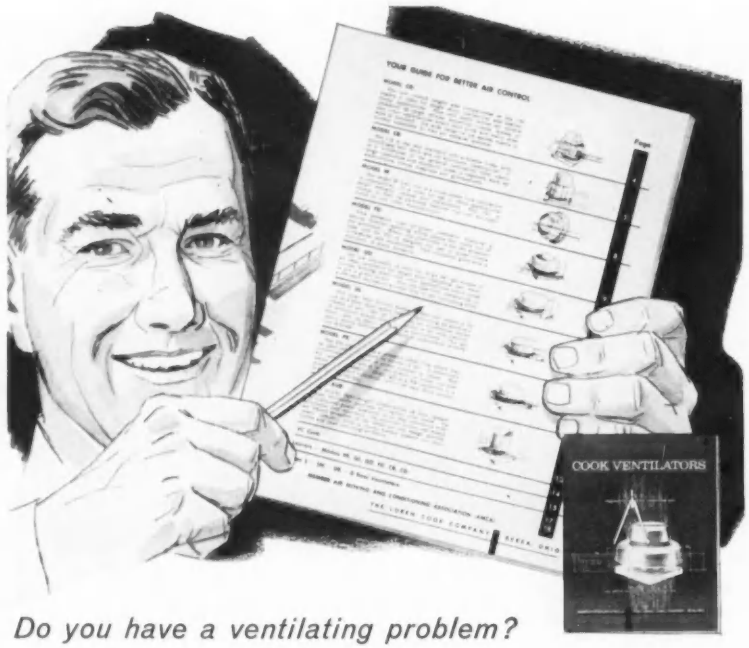
The White House proposed four steps:

1. A national conference to be held next December under auspices of the Health, Education, and Welfare Department, to provide a forum in which all concerned can confront and better appreciate their mutual responsibilities for solving the problem.

2. Where the issue is of an interstate nature and the problem is beyond the powers of a single state, the Federal government should have authority to move more quickly and effectively in directing the application of control measures that will swiftly correct pollution.

3. The Federal government should continue to provide modest financial assistance for the administration of control programs by states and interstate water pollution control agencies.

4. The Federal government, through research and technical assistance, can be of material help in contributing to knowledge of water pollution—its causes, its extent, its impact and methods for its control. The President has provided for this increased Federal effort in his fiscal 1961 budget, it was noted.



Do you have a ventilating problem?

Cook CONTROLLED VENTILATION WILL SOLVE IT FOR YOU!

SPECIFY COOK VENTILATORS

- Right for the job
- Easy to install
- All Aluminum Quality Construction
- Trouble-free
- Maintenance-free
- Built for Wide Range of Quiet Operation

We've taken the doubt out of ventilator selection in this new approach to your ventilating problems. Write today for your copy. Find out how the complete Cook line is engineered for top efficiency and top economy—your best answer for any ventilating problem.

Please send me a copy of your 1960 Controlled Ventilation catalog.

Name_____

Position_____

Street Address_____

City_____ Zone____ State_____

Cook ALL SPUN ALUMINUM VENTILATORS

THE LOREN COOK COMPANY • BEREA, OHIO

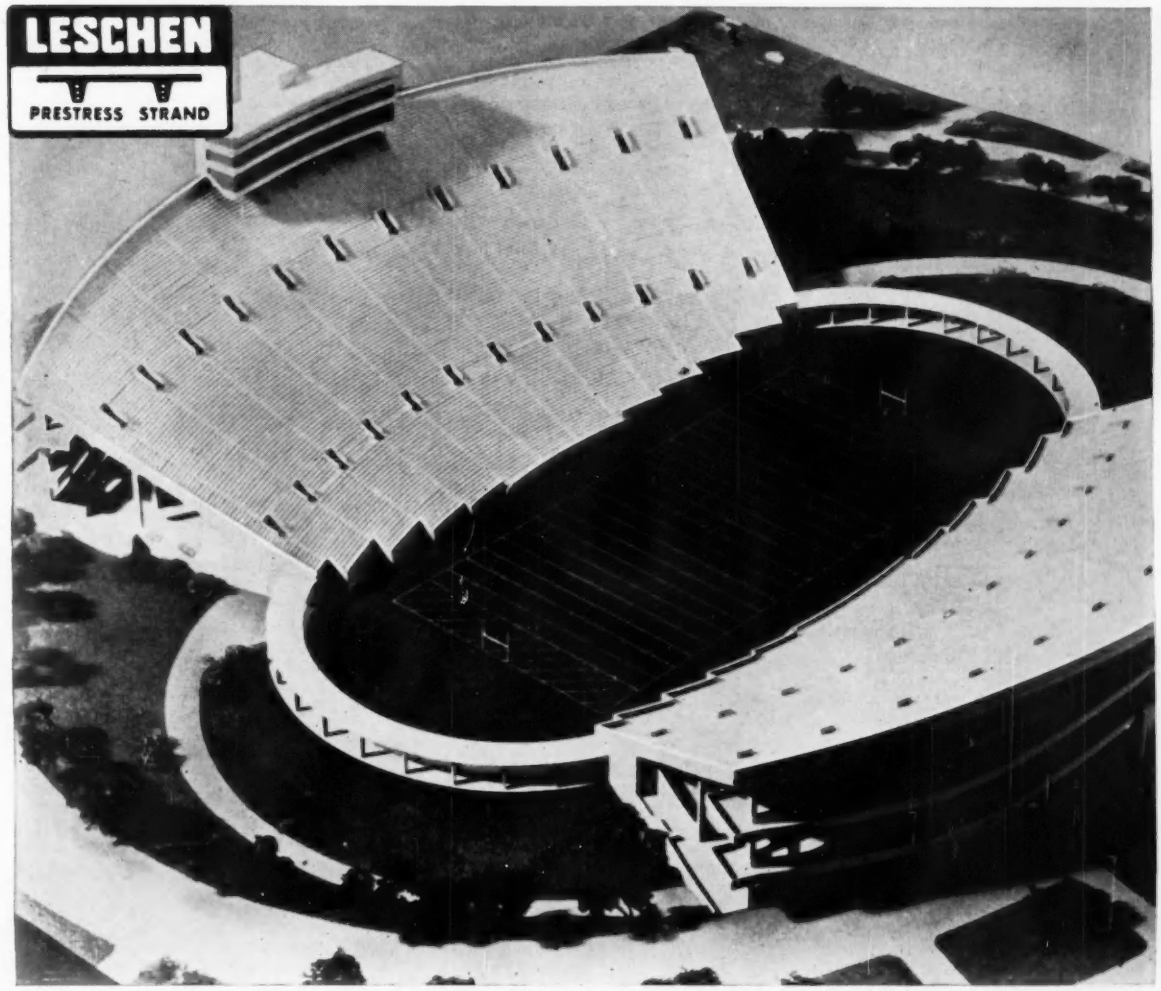
Local Action on City Planning Promoted by U. S. Chamber

The United States Chamber of Commerce, at its construction industry conference last month, unveiled its new blueprint for local community action in the field of urban development.

This outlines methods by which local groups can take command of orderly city planning and entails a philosophy of switching more responsibility for urban planning and development from Federal to local sources.

The program is outlined in seven volumes, each directed to a specific facet of organized community planning. The primer titles are: Balanced Community Development; Community Analysis—Foundation for Decision Making; Comprehensive Planning—Guide for Commu-

continued on page 351

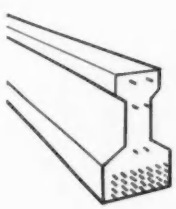


$300,000 contract for the stadium's seat foundations was awarded to Stress-Con Division of Shute Concrete Products, Inc., Richmond, Indiana. Architects—Eggers & Higgins, NYC. Structural Consulting Engineers—Severud—Elstad—Krueger—Associates, NYC. Consultant on Prestressing—Philip Ostendorf, Dayton. O. General Contractors—Hubert, Hunt and Nichols.

Prestressed Concrete Cuts Indiana Stadium Maintenance

Nearly 14 miles of prestressed concrete channels have been used for 70,000 seats in Indiana University's new stadium at Bloomington to be completed this Fall. These channels average 23 feet long. Leschen Prestress Strand was used in their fabrication.

A most versatile building material, prestressed concrete is receiving ever-increasing acceptance. Its unique properties such as thinner sections, longer spans, lower depth-to-span, minimum maintenance, less weight and economy appeal to architects and engineers striving for design freedom. In this stadium, economy through mass production in the prestressing plant was a key element in the decision.



TALK WITH A NEARBY PRODUCER OF PRESTRESSED CONCRETE—He can discuss technical problems, point to examples of prestressed construction in your area, and advise on costs and delivery of beams from his yard.



OR WRITE LESCHEN—Leschen supplies producers with the tensioning material—prestress strand. To insure uniform production of highest quality tensioning steel, Leschen has installed the world's newest and most modern wire mill and other specialized equipment. Write for literature giving typical uses and engineering data. Leschen Wire Rope Division, H. K. Porter Company, Inc., St. Louis 12, Mo.

LESCHEN WIRE ROPE DIVISION PORTER **H. K. PORTER COMPANY, INC.**

PORTER SERVES INDUSTRY with steel, rubber and friction products, asbestos textiles, high voltage electrical equipment, electrical wire and cable, wiring systems, motors, fans, blowers, specialty alloys, paints, refractories, tools, forgings and pipe fittings, roll formings and stampings, wire rope and strand.

Glass makes a grand entrance—

Doors should be more than just openings. They should be a better way of doing business. PPG doors are like that. They complement the inviting window wall look of modern commercial architecture.

PPG offers you three styles of entrances specially designed to fit into any type of architecture. There are PPG HERCULITE®, West and TUBELITE® doors—each with a smart, distinctive look, each with the rugged strength that is the trademark of Pittsburgh doormanship.

PITTCOMATIC®. All Pittsburgh doors can be mat or handle operated by the PITTCOMATIC automatic door opener—a simple, hydraulic, motor-driven unit. PITTCOMATIC is easy to install, easy to maintain. Its instant response and smooth, gentle action make it the nation's number one buy in automatic door openers.

For complete information on Pittsburgh Doors, see Sweet's 16a, 16d or write for our Pittsburgh Door catalogs today. Pittsburgh Plate Glass Company, Room 0150, 632 Fort Duquesne Blvd., Pittsburgh 22, Pennsylvania.

Pittsburgh Plate Glass Company

Paints • Glass • Chemicals • Fiber Glass In Canada: Canadian Pittsburgh Industries Limited



TUBELITE DOORS installed in a PPG Open-Vision front—Harris' Super Market, Waycross, Georgia. PPG's heavy-duty, high-traffic Tubelite entrances have concealed channel type anchors which keep frame seams to a hair line. Door frames have an exclusive interlocking feature that insures rigidity. For shopper convenience, doors are mat operated by PPG's Pittcomatic automatic door opener. Contractor: Business, Inc., Waycross, Georgia.

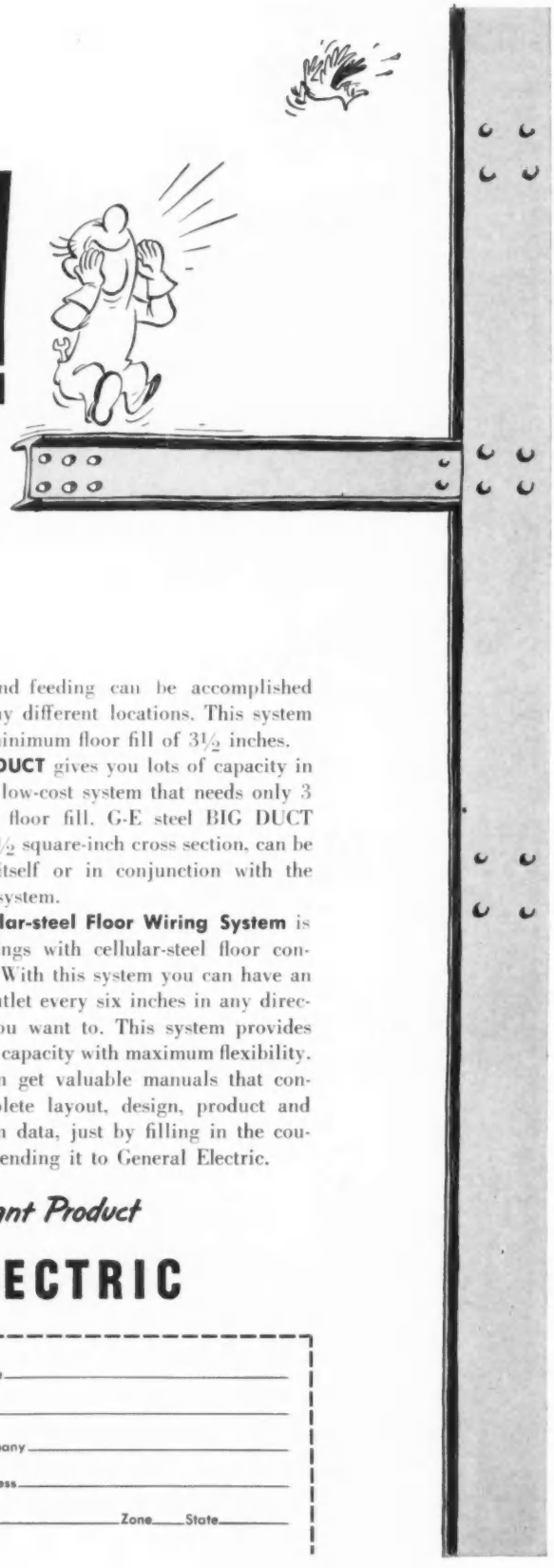
WEST TENSION DOORS add style and beauty to the entrance of the I.B.M. Corporation Office Building, Chicago, Ill. Narrow stiles of West doors give that pencil line look without sacrificing strength. Their ½" thick glass held under compression in the metal frame makes a completely solid unit that won't sag or rack. Architects: Eliot Noyes & Associates, New Canaan, Conn. Associate Architects: McClurg, Shoemaker & McClurg, Chicago, Ill. Glazed by Cadillac Glass Company, Chicago, Ill. Contractor: B. W. Handler Construction Company, Chicago, Ill.





HERCULITE DOORS set in bronze Herculite door frame assemblies and sidelights—First National Bank of Topeka, Topeka, Kansas. Herculite tempered plate glass doors will last a building's lifetime without maintenance. These doors are handle operated by Pittcomatic—PPG's exclusive automatic door opener. Architects: Kiene & Bradley, Topeka, Kansas. Contractor: M. W. Watson, Topeka, Kansas.

FOUR!



General Electric offers a choice of four types of underfloor wiring systems.

With General Electric's four types of underfloor wiring systems you can meet any electrical requirements in any type of floor construction. General Electric offers you a complete line.

G-E Standard System fits into poured concrete floors only 2½ inches thick. The steel duct has an inside cross-sectional area of 3.357 inches.

The G-E Two-level System is for buildings where feeding problems are complicated. With this G-E steel system you get completely separate services (normally feeding through the lower level, distribution through the upper level), and feeding can be accomplished from many different locations. This system needs a minimum floor fill of 3½ inches.

G-E BIG DUCT gives you lots of capacity in a simple, low-cost system that needs only 3 inches of floor fill. G-E steel BIG DUCT with its 8½ square-inch cross section, can be used by itself or in conjunction with the standard system.

G-E Cellular-steel Floor Wiring System is for buildings with cellular-steel floor construction. With this system you can have an electric outlet every six inches in any direction, if you want to. This system provides maximum capacity with maximum flexibility.

You can get valuable manuals that contain complete layout, design, product and installation data, just by filling in the coupon and sending it to General Electric.

Progress Is Our Most Important Product

GENERAL ELECTRIC

General Electric Company
Conduit Products Department
Section CU102-535
Bridgeport 2, Connecticut

- ☐ Please send me your bulletin on single- and two-level steel underfloor wiring systems.
- ☐ Please send me your bulletin on cellular-steel floor wiring.
- ☐ Enclosed is a description of my underfloor wiring problem. What do you suggest?

Name_____

Title_____

Company_____

Address_____

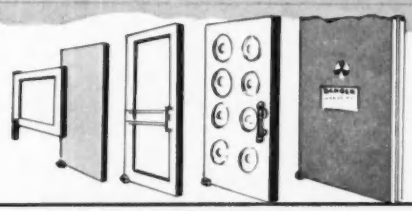
City_____ Zone____ State_____

you can be *REALLY* specific when you specify from the

81 RIXSON® DOOR CLOSER styles and variations

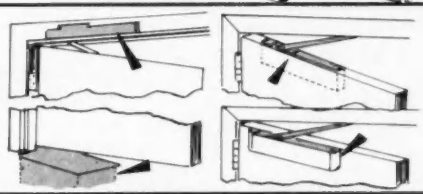
to meet every requirement and preference

DOOR WEIGHT requirements



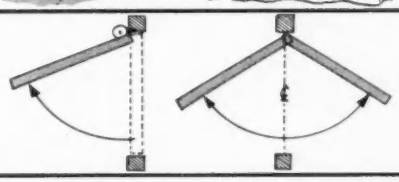
styles for doors, 12 lbs. to 1200 lbs. — light office rail gates to extra heavy lead-lined doors.

CLOSER MOUNTING requirements



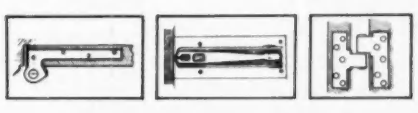
styles for mounting in the floor, in the jamb, in the door, on the door.

DOOR ACTION requirements



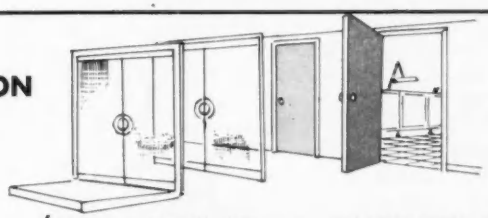
styles for single acting and double acting—both light and heavy doors.

DOOR HANGING preference



styles for offset hung doors, center hung doors and butt hung doors.

DOOR LOCATION requirements



styles for entrance, vestibule, corridor, all interior doors, toilet stall doors and office rail gates.

60 years experience in careful manufacturing, using the finest in materials.

THE OSCAR C. RIXSON COMPANY
9100 west belmont ave. • franklin park, ill.
CANADIAN PLANT: 43 racine rd. (rexdale P. O.) toronto, ontario

Send for your copy of condensed CATALOG 18e

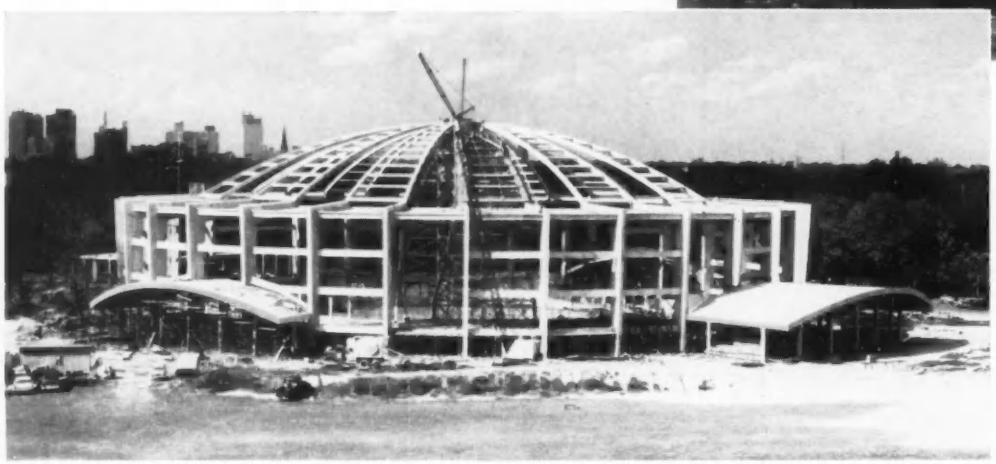
CONCRETE FRAME FOR NEW JACKSONVILLE COLISEUM

Lehigh Early Strength Cement Used in Unique Roof Structure

• Rising next to the famed Gator Bowl in Jacksonville, Florida, is a reinforced concrete frame providing a support free area 302′ in diameter for the new 12,000 seat Sports Coliseum. Lehigh Early Strength Cement and Lehigh Portland Cement are being used throughout.

A concrete ring 25′ in diameter was poured first atop the center support of this huge two-pronged form. Then the circular roof ribs were poured in pairs in prong forms (only one visible), tying the center ring and outer roof together. After each pour, prongs were lowered 3′ hydraulically and rotated to next position.





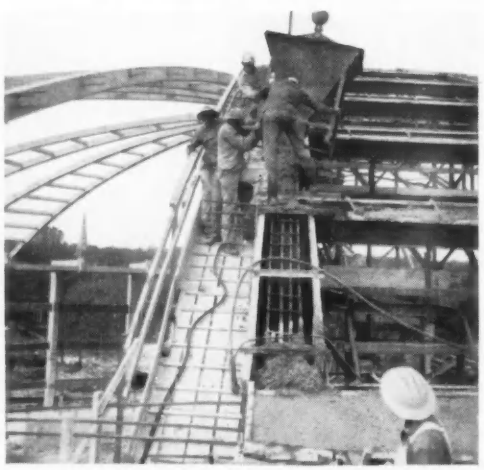
Clear span at base of structure is 302′. Height to center roof ring is 95′. Height to perimeter roof is 65′. Circular roof rib radius is 250′. Two of three entrances take shape in foreground.

Use of Lehigh Early Strength Cement in the perimeter roof made it possible for Daniel Construction Company to use fewer sets of forms while meeting a fast construction schedule. In the circular roof ribs, this cement provided the high early strength concrete necessary for most efficient use of the huge two-pronged form (see pictures).

This is another example of why we say, "Somewhere on nearly every job, Lehigh Early Strength Cement can save time and money." Lehigh Portland Cement Company, Allentown, Pa.

LEHIGH CEMENTS

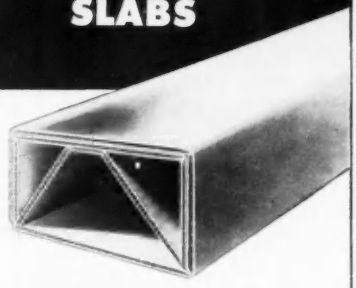
Owner: City of Jacksonville, Florida • *Architect:* A. Eugene Cellar and George Ryad Fisher, Jacksonville, Fla. • *Structural Engineer:* Gomer E. Kraus, Jacksonville, Fla. • *Contractor:* Daniel Construction Company of Florida, Jacksonville, Fla. • *Ready Mix Concrete:* Southern Materials Company of Florida, Jacksonville, Fla.



Placing concrete for roof ribs high above coliseum floor.

JAY-VOIDS

America's Only
Asphalt Impregnated
Corrugated Forms
PREVENT CRACKED SLABS



JAY-VOIDS offer builders a more positive void than now available through conventional methods. These TESTED and PROVED forms help prevent cracked slabs by providing space underneath the slab for movement of the earth.

JAY-VOIDS lightweight, simple one-piece form folds easily for fast assembly and placement . . . are shipped and stored flat.

JAY-VOIDS are made of patented FREEZURBOARD . . . the heavy-duty asphalt and wax impregnated corrugated board . . . assures top quality and greatest strength under adverse weather conditions. (Not to be compared with ordinary corrugated board.)

JAY-VOIDS are your cheapest insurance against cracked slabs. They save you money and assure top quality concrete construction.

OUR COMPLETE LINE OF CONSTRUCTION FORMS INCLUDES:

- Pre-Stressed
- Rib Slabs
- Void Slabs
- Waffle Slabs
- Pre-Cast
- Lift Slabs

WRITE WIRE PHONE

For complete information, engineering data & prices

Construction Products Division,
LAWRENCE PAPER CO.
Lawrence, Kansas, VIking 3-8111

Washington Topics

nity Growth and Change; Planning Urban Renewal Projects; Modernizing Local Government; Financing Community Development; and Community Leadership—Key to Local Development.

The seven pamphlets are to be made available for general use, an the Chamber hopes to supplement these with additional corollary material to make their use easier. Local organizations will be urged to prepare supplementary material.

The project was under auspices of the Construction and Civic Development Department of the Chamber, with Howard Evans in charge.

One of the approaches in the overall program was a request made to various industry groups to enlist their aid in helping to persuade local groups to take a more active interest in planning and developing communities. These organizations included the American Institute of Architects, the National Association of Home Builders and the National Association of Real Estate Boards.

The associations are being asked to advise their chapters to cooperate with local chambers of commerce throughout the country in applying the principles laid down in the pamphlets.

The long-range plan calls for instituting test programs in five or six selected cities well distributed geographically and as to size to illustrate in performance exactly what the U. S. Chamber is advocating.

Labor Asks Public Works "Shelf" As Recession Hedge

Suggesting that the country must be ready to fight another economic recession aggressively and quickly, organized labor has proposed a number of preparatory measures, among them that of preparing an extensive "shelf" of ready-to-go public works plans. A statement issued following the AFL-CIO executive council meeting in Miami Beach earlier this year called for preparation of such a catalog of detailed public works plans.

All public works programs should be examined, the council urged, to determine which of them could be made ready and available for imme-

continued on page 356

Ainsworth BUDGETLITE



ROOSEVELT ELEMENTARY SCHOOL, WELLINGTON, KANSAS
ARCHITECTS, RAMEY & HIMES
(NOW UEL C. RAMEY & ASSOCIATES)
ELECTRICAL ENGINEER, CARL GREEN & ASSOCIATES

balanced low brightness for schools

Low contrast is achieved because T17-40W low brightness lamps are used, properly spaced to provide a wide, well lit area on the ceiling as a background. This increases the diffused light, too.

Very high efficiency (98%) is confirmed by tests of a well-known laboratory.

Low maintenance effort is required because the only place light absorbing dust can settle is easily reached from the floor with a duster.

Low installation costs are possible because Ainsworth BUDGETLITE is prewired and light-weight assemblies make handling and hanging easy and fast.

There is an AINSWORTH fixture for every need. Send for more information.

Ainsworth LIGHTING, INC.
38-10 29th Street, Long Island City 1, N. Y.

No compromise with quality in Rō-Way overhead doors

In Ro-Way overhead doors for commercial and industrial applications, you'll always find just one standard of quality—the finest.

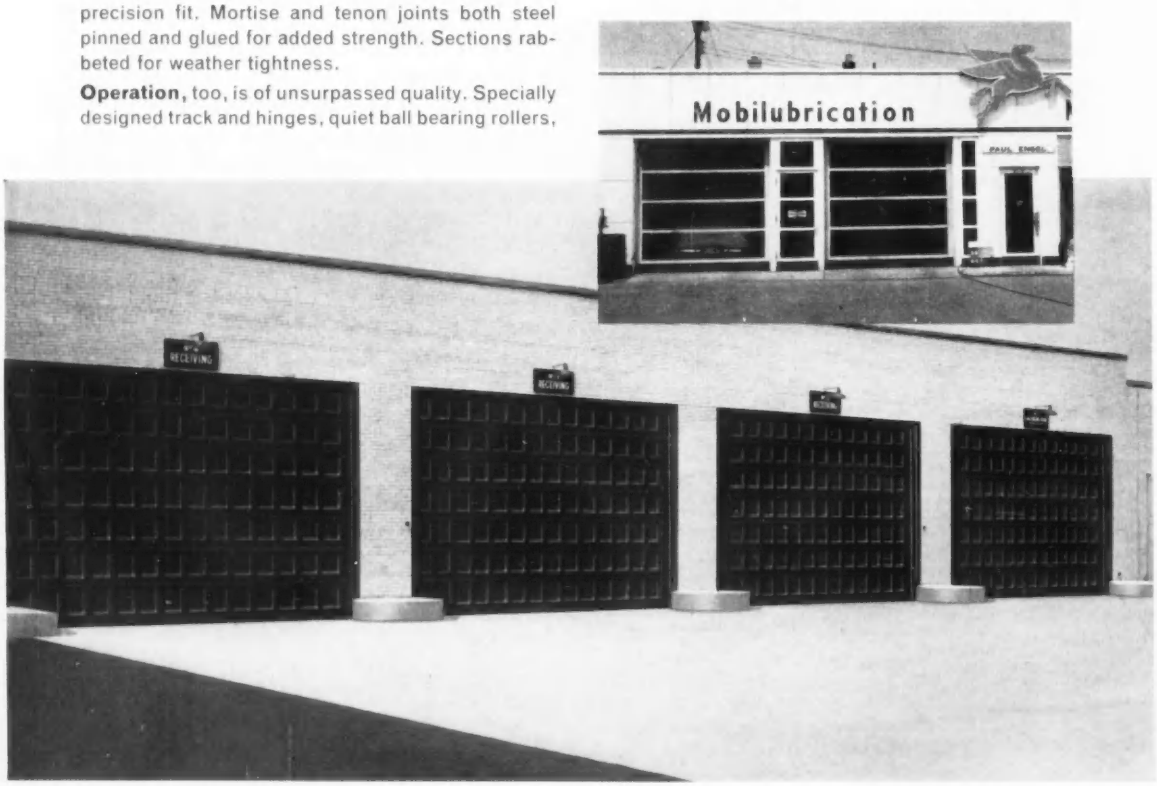
Take Ro-Way materials, for example. Sections are made from selected, kiln-dried West Coast woods. Panels are exterior grade Masonite® Dorlux®, guaranteed for the life of the door. All hardware is heavy gauge, roll-galvanized steel, beefed up to stand up under commercial use.

Ro-Way construction is second-to-none quality through and through. Muntins, rails and stiles are precision fit. Mortise and tenon joints both steel pinned and glued for added strength. Sections rabbeted for weather tightness.

Operation, too, is of unsurpassed quality. Specially designed track and hinges, quiet ball bearing rollers, and individually tension-balanced springs assure easy-does-it operation, time after countless time.

That's why we say Ro-Way is the door with built-in client satisfaction . . . the door you can depend on to be a credit to *you*. For full details, consult your helpful Ro-Way distributor whose name is listed in the Yellow Pages.

For maximum client convenience, specify the famous Ro-Way Electric Operator for commercial doors



Rowe Manufacturing Co.
1222 Holton Street, Galesburg, Illinois

Rō-Way
OVERHEAD
DOORS

SEE OUR CATALOG
IN SWEET'S ARCHITECTURAL FILE
OR WRITE FOR COPY

Find Your Nearest Distributor in The 'Yellow Pages'

there's a Ro-Way for every Doorway!

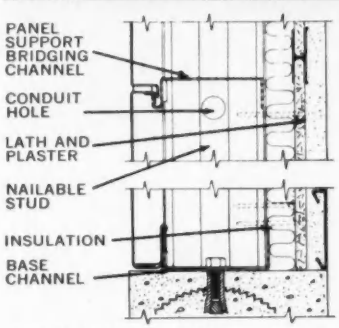
COMMERCIAL • INDUSTRIAL • RESIDENTIAL

IT'S REVOLUTIONARY! IT'S LOAD-BEARING! IT'S ONE-POINT RESPONSIBILITY!

Here's a complete modular wall system which integrates lightweight nailable steel framing with architectural porcelain panels and aluminum extrusions. The steel framework is load-bearing and specially designed to hold the thermally efficient panels without additional framing or attachment operations. This skeleton-and-skin coordination not only saves during construction, it provides unlimited design possibilities. ■ Foundations or footings need not be heavy or complex. The structural load-bearing framework of Stran-Steel has a high strength/weight ratio. Architectural panels and other collateral materials attach without secondary members. Panels are hung from the integral "j" girts and simply snap in place without exposed fastenings—without welding, riveting or mispositioning. Windows, available in a variety of designs, slip in place quickly. And the integrated fit of joists and beams eliminates the need for dropped ceilings or boxed beams. ■ The complete Stran-Wall system—including panels, insulation, nailable steel framing, and aluminum mullions for doors and windows—is available from one source, your Stran-Steel architectural products dealer. For specifications and details, mail the coupon or call him. He's listed in the Yellow Pages under Steel.

NEW STRAN-WALL SYSTEM





WALL CROSS SECTION

ARCHITECTURAL PORCELAIN PANELS: FLAT, COLORFUL, MAINTENANCE-FREE—Extremely flat panel surfaces reduce reflection patterns. Porcelainized both sides, Stran-Wall panels come in 72 colors, 3 textures (smooth, ripple, stipple), 3 finishes (gloss, semi-gloss, matte).

Stran Steel®

Stran-Steel Corporation, Dept. AR-11, Detroit 29, Michigan

Please send complete information on the new Stran-Wall System.

Name_____ Title_____

Company_____

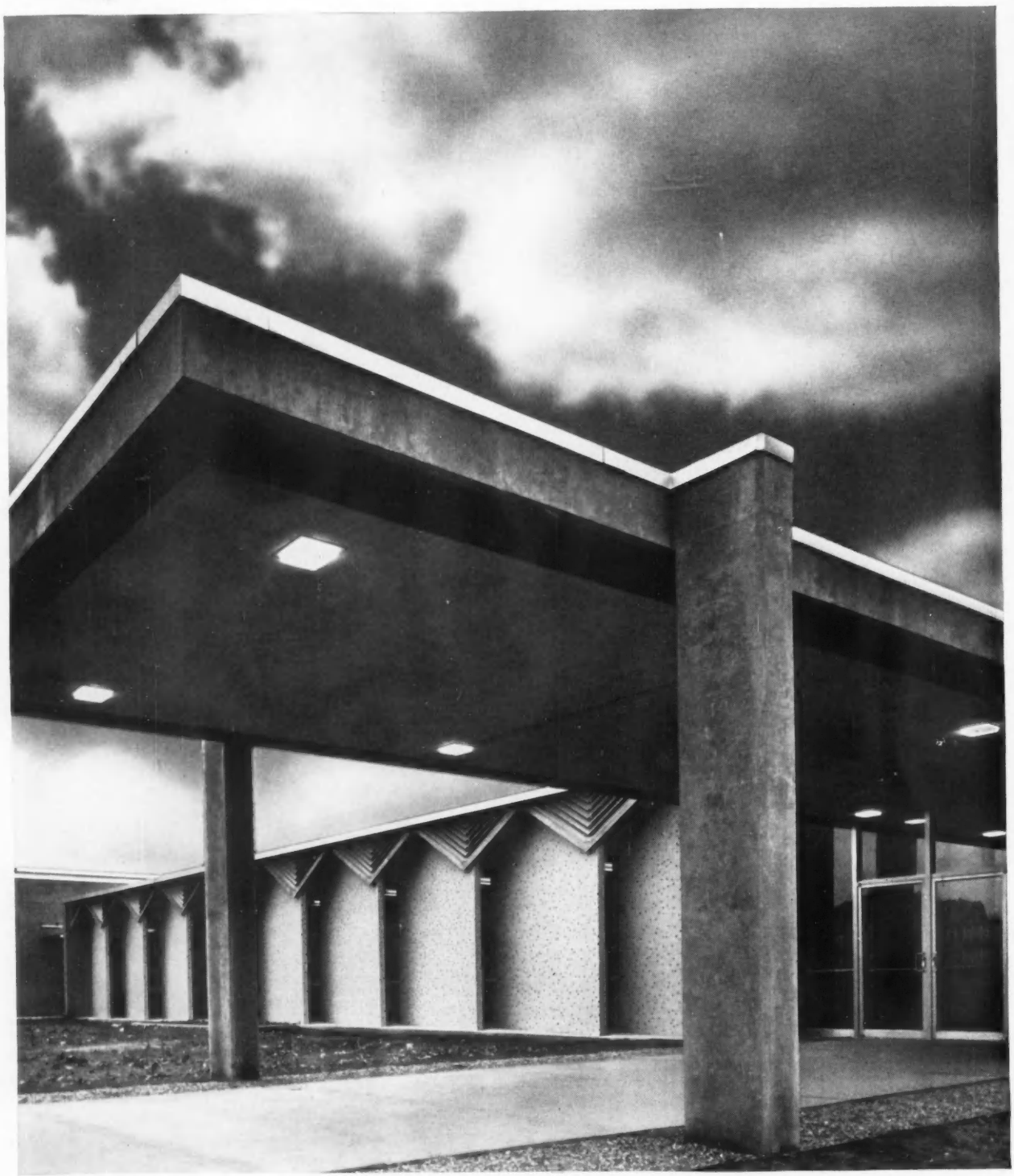
Phone_____

Address_____

City_____ Zone____ State_____

STRAN-STEEL IS A DIVISION OF **NATIONAL STEEL CORPORATION**

DOW | BUILDING PRODUCTS



Memorial Student Union Building, Southern Connecticut State College. Architect: Carl R. Blanchard, Jr., A.I.A., New Haven, Connecticut.

STYROFOAM®

delivers permanently low "K" factor, lower costs for Connecticut college building

Low thermal conductivity—"K" factor—was a major point in the choice of Styrofoam† to insulate the Memorial Student Union Building at Southern Connecticut State College. The building—which will house dormitories, apartments, cold storage areas, dining rooms, and activities rooms—required permanent insulation.

The application required an insulation with low moisture absorption, a low thermal conductivity factor, and one that would act as its own moisture barrier. Styrofoam was specified as the sole insulation material in the building—for all exterior cavity walls, for the foundation perimeter, and for all interior low temperature rooms.

Labor cost savings were also an important benefit from using Styrofoam. For example, one use of Styrofoam was in the exterior wall which was designed as a plenum chamber. Inside this 10″ plenum cavity, the interior face of the exterior wall was insulated with Styrofoam applied by means of a water base adhesive.

The use of Styrofoam helped save construction costs by eliminating the need for battens, i.e., nailing of 2 x 2's over the insulation, as would be required with other insulation materials.

Because of its unique water and water-vapor barrier properties that bar moisture and won't absorb water, Styrofoam provides permanent, low-cost insulation efficiency for comfort and low temperature space. And its light weight makes installation fast and easy. For more information, write THE DOW CHEMICAL COMPANY, Midland, Michigan, Plastics Sales Dept. 1701N5.

Other Dow building products

SCORBORD* —(Pat. applied for) Superior rigid insulation for foundation perimeters, slab floors. Exclusive pre-scored feature speeds installation.

ROOFMATE* —Lightweight rigid insulation for built-up roofs serves as its own moisture barrier. Reduces blistering, resultant leaks.

POLYFILM* —High quality polyethylene film for temporary enclosure or moisture barrier under slab or insulation.

SARALOY* 400 —elastic sheet flashing conforms to surface contours. Bonds to any construction material. Won't crack. *TRADEMARK

†Dow's registered trademark for its expanded Polystyrene



Both walk-in refrigerators are insulated with Styrofoam.



Main dining room, showing exposed concrete roof structure.

THE DOW CHEMICAL COMPANY • MIDLAND, MICHIGAN

See the "DOW HOUR of GREAT MYSTERIES" on NBC-TV

Specify
PLASTER-WELD®
permanently
bonds new plaster
to concrete . . .
for as little as
2¢ per square foot.



DUPONT PLAZA CENTER, MIAMI, FLORIDA

Plaster-Weld is the amazingly versatile, patented liquid bonding agent today specified on hundreds of remodeling and new construction projects by leading architects the country over. In the case of the Dupont Plaza Center, shown above, Plaster-Weld was used to permanently bond finish plaster to interior concrete surfaces and stucco to exterior concrete surfaces. *Archt.:* Frank H. Shuflin & Associates, Miami; *Genrl. Contr.:* Arkin Construction Company, Miami Beach; *Plstg. Contr.:* E. L. Thompson Co., Atlanta, Ga.



MARRIOTT MOTOR HOTEL, WASHINGTON, D. C.:

With Plaster-Weld you can permanently bond gypsum, lime putty, acoustical plaster and cements to themselves . . . or *directly* to any sound surface . . . even glass. Applied with brush, roller or spray gun. No costly surface preparation. You cover Plaster-Weld with new material as soon as touch dry (about an hour). In case of Marriott Motor Hotel, billed as "World's Largest Motel," Plaster-Weld was sprayed on smooth concrete ceilings to bond lime putty plaster finish. *Archt.:* Joseph G. Morgan, Washington; *Genrl. Contr.:* Charles H. Tomkins Co., Inc., Washington; *Plstg. Contr.:* Novinger Company, Inc., Brentwood, Maryland.

A Plaster-Weld bond is ageless . . . never lets go! Plaster-Weld is approved by New York City Board of Standards & Appeals, and protected under U.S. Patent No. 2,760,885. For technical data, and job proof, see Sweet's or write us direct. Address Box 5756C, Larsen Products Corp., Bethesda, Maryland.

SPECIAL OFFER

For your convenience, we have developed 5-page work sheet copies of specifications for bonding agents, edited by Ben H. Dyer, A.I.A., specifications consultant of Bethesda, Md. Get yours today. Simply mail coupon below.

Larsen Products Corporation
Box 5756 C Bethesda, Md.
Please send ( ) sets of specifications to—
Name .....
Company .....
Street Address .....
City ..... State .....

Washington Topics

diate action at the first signs of a recession. Detailed planning, blue printing and land purchases should be made well in advance of a recession, the statement continued, adding that a comprehensive program of this type should include Federal technical aid and long-term loans to make possible state and local government planning. This was described as "essential for the development of a Federal shelf of public works."

Bureau of Public Roads Adds Urban Highway Division

Municipal officials reportedly were pleased with the recent action of the Bureau of Public Roads organizing a new division of urban highways. This was done by the Federal agency to provide maximum assistance to states and cities in the construction of urban roads and streets, it was said.

The American Municipal Association hailed this as a move in the right direction and a recognition of the increased importance of urban highway development.

The Bureau has regrouped the urban highway function of the Office of Engineering under a new Urban Highway Division, naming D. W. Loutzenheiser to head it. The new unit will coordinate all Washington office activities in connection with urban highway matters, and will help the Bureau to provide concentrated attention on the important elements of planning, location, design, construction, and operation of Federal aid urban highway projects.

The long-range program and greatly increased expenditures involved in the completion of the interstate system have intensified the need for quicker decisions on planning city highways, the A.M.A. noted.

Under the new system, the responsibilities of the various offices and divisions of BPR will not be changed, it was explained. The BPR field offices will continue to receive technical assistance and administrative guidance from the Bureau in Washington. Both the Office of Research in the planning field, and the Office of Engineering in

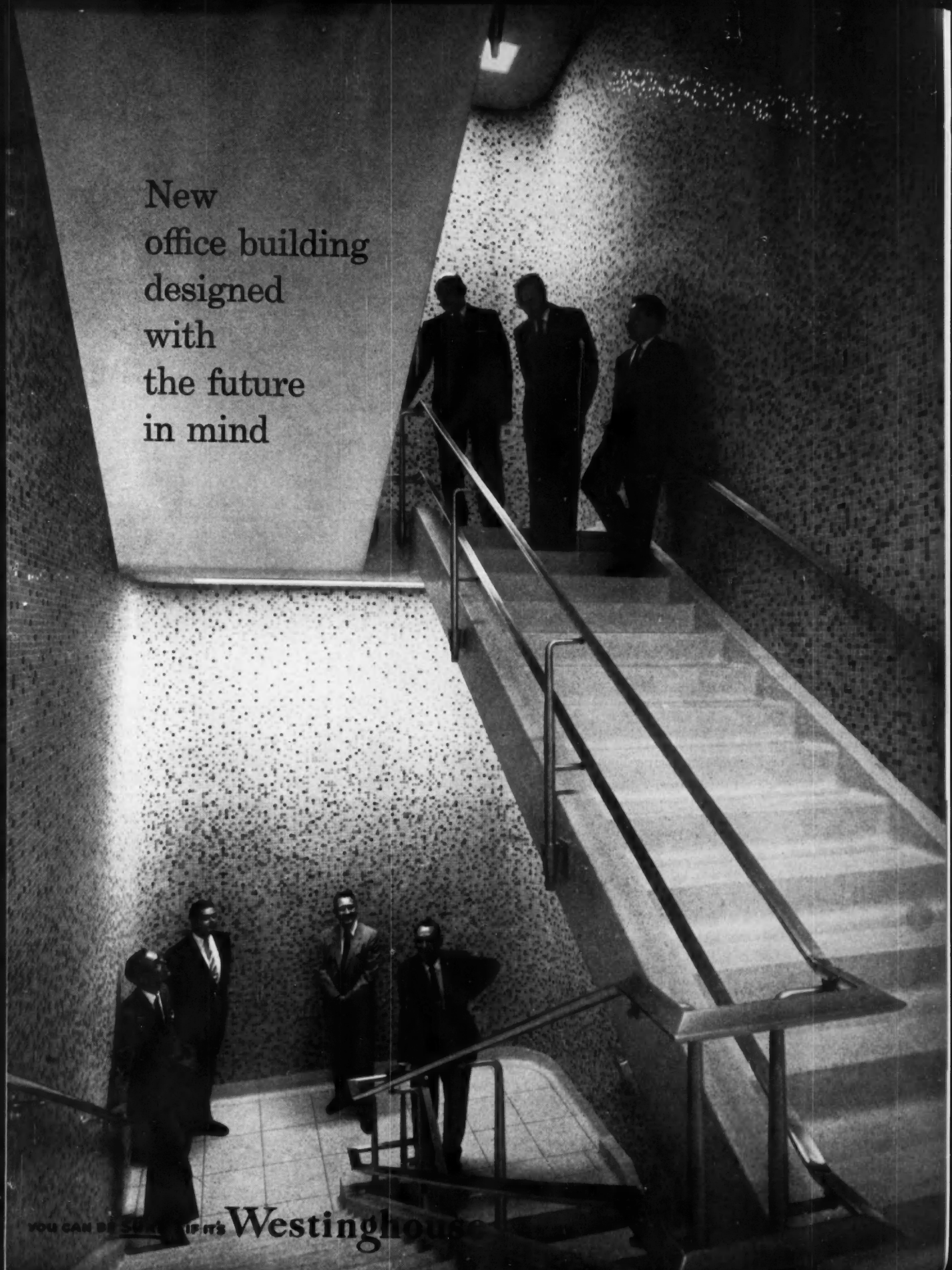
continued on page 362

dor
less
dor
THE MODERN
ENTRANCE



AIR CURTAINS FOR:
BANKS
STORES
TERMINALS
SUPERMARKETS
OFFICE BUILDINGS
INDUSTRIAL PLANTS

SULZER
50 CHURCH STREET
NEW - YORK 7, N.Y.


New
office building
designed
with
the future
in mind
YOU CAN BE SURE IF IT'S Westinghouse

COVER PHOTO: Westinghouse Mainliner recessed fluorescent luminaires light the spacious stair wells which are finished with ceramic tile and terrazzo stairs. Shown here are C. E. Pickering, Westinghouse Construction Specialist; W. F. Sterbens, Wesco, Omaha; J. P. Anderson, James P. Anderson Company, Consulting Engineers; J. O. Unthank, Unthank and Unthank, Architects; R. W. Changstrom, Branch Manager, Wesco, Omaha; P. J. Assenmacher, President, Assenmacher Construction Company, General Contractor; and T. G. McBride, Sales Manager, Market Planning, Wesco, Pittsburgh.

Exterior view of new home offices of Bankers Life Insurance Company of Nebraska, in Lincoln. Two different lighting systems are provided for the building, one for day and periphery lighting for night.



Bankers Life Building designed for comfort, convenience, economy and expandability

The home office building of Bankers Life Insurance Company of Nebraska, in Lincoln, was planned and constructed to provide maximum efficiency and future expansion. It incorporates many ideas which resulted from a study of other home office insurance buildings throughout the country, plus a careful study of the company's operation and plans for future growth.

Careful consideration was given to the selection of easily maintained materials for efficient maintenance and low operating costs. This was accomplished through use of permanent materials which require no painting, such as Westinghouse decorative Micarta® surfaces; large areas of ceramic tile; terrazzo floors; glare-reducing, heat-absorbing glass; movable walls; changeable fixtures and complete flexibility of heating, lighting and communications facilities.

One of the most important considerations in planning and construction of the building was the selection of an adequate electrical distribution system and the electrical comfort and convenience components such an electrical system made possible. Westinghouse was specified throughout for the distribution system, lighting, elevators, motors and controls. The expandability inherent in the building itself is ample for the present electrical needs and provides for 100% future electrical expansion.

(*contd.*)

YOU CAN BE SURE...IF IT'S
Westinghouse

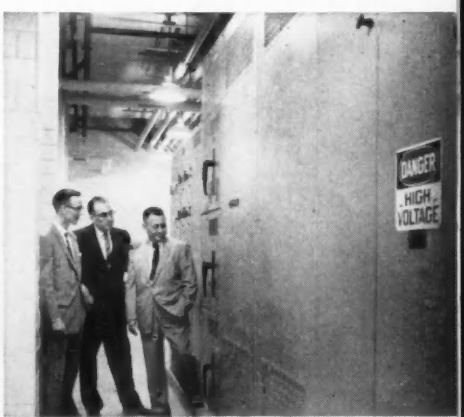
J-94136-2



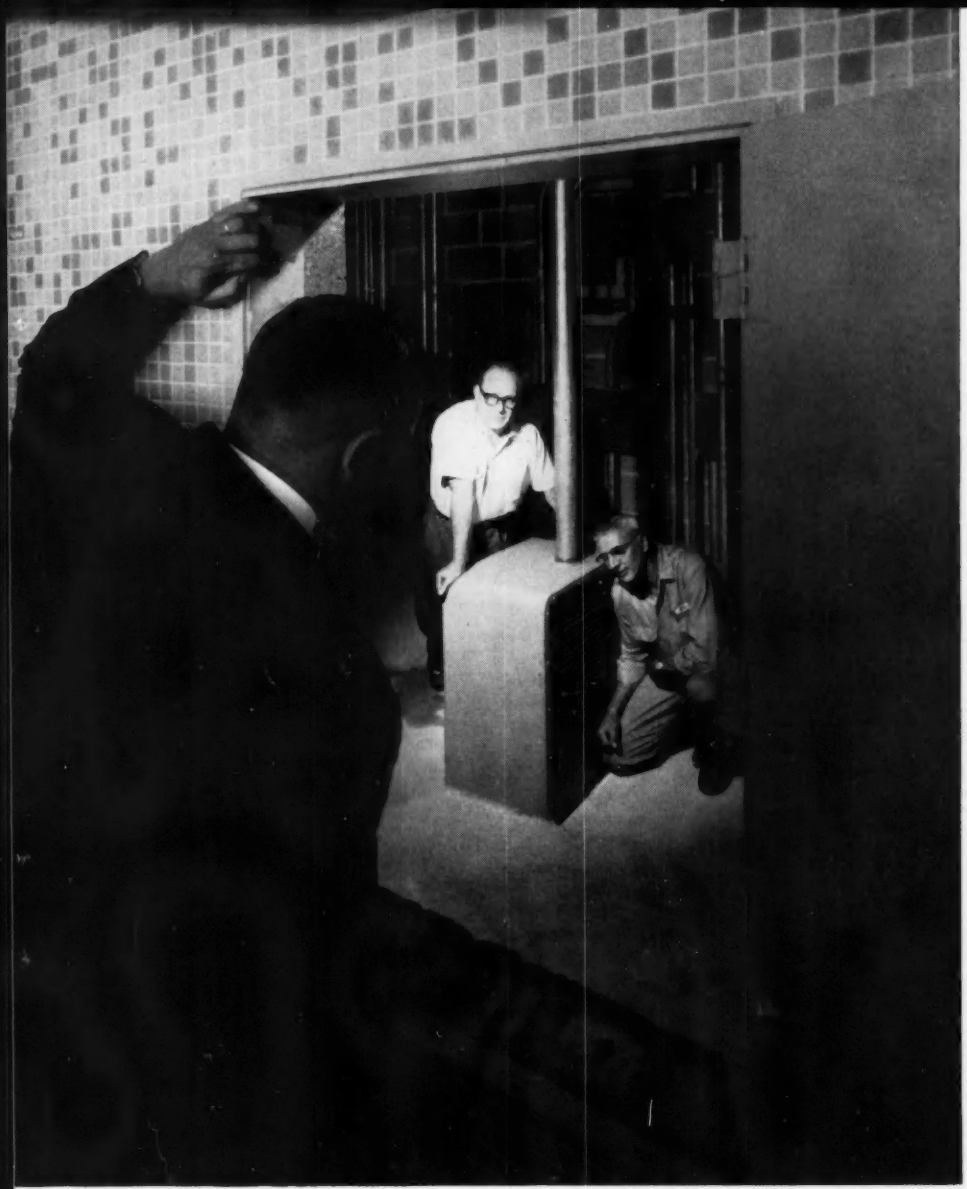
View of one of the scientifically planned work areas where the latest equipment is combined with planned use of space to make work easier and more productive. Complex electronic equipment necessary for accurate computations and record keeping requires special facilities including auxiliary air conditioners and humidifiers.



Office areas are illuminated with Westinghouse Mainliner recessed fluorescent luminaires. Modern functional furniture made with durable Westinghouse Micarta laminates was designed and built by Herman Miller of Zeeland, Michigan.

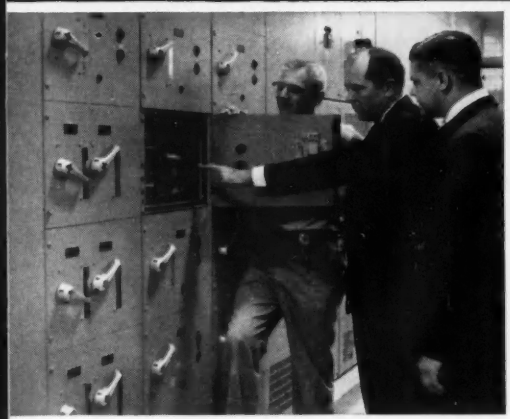


C. E. Pickering, J. O. Unthank and J. P. Anderson are shown in front of Westinghouse 1500-kva dry-type ASL power center. This power center steps incoming voltage down from 5 kv to 277y/480 for distribution through three Type DB-50 air circuit breakers.



W. F. Sterbens looks through the only opening of central ventilator-power duct shaft located in immediate office area of each floor. A compact 75-kva Westinghouse Type DT-3 dry-type transformer steps down voltage at point of utilization feeding underfloor duct. K. W. Bell, Building Superintendent, and Jacob Dietrich, Building Engineer, check noise level of transformer which must be inaudible to operate in office area. Size was also a prime consideration in fitting transformer through available opening. Only a Westinghouse DT-3 dry-type transformer combined small size, 75-kva rating and guaranteed silence.

J-94136-3



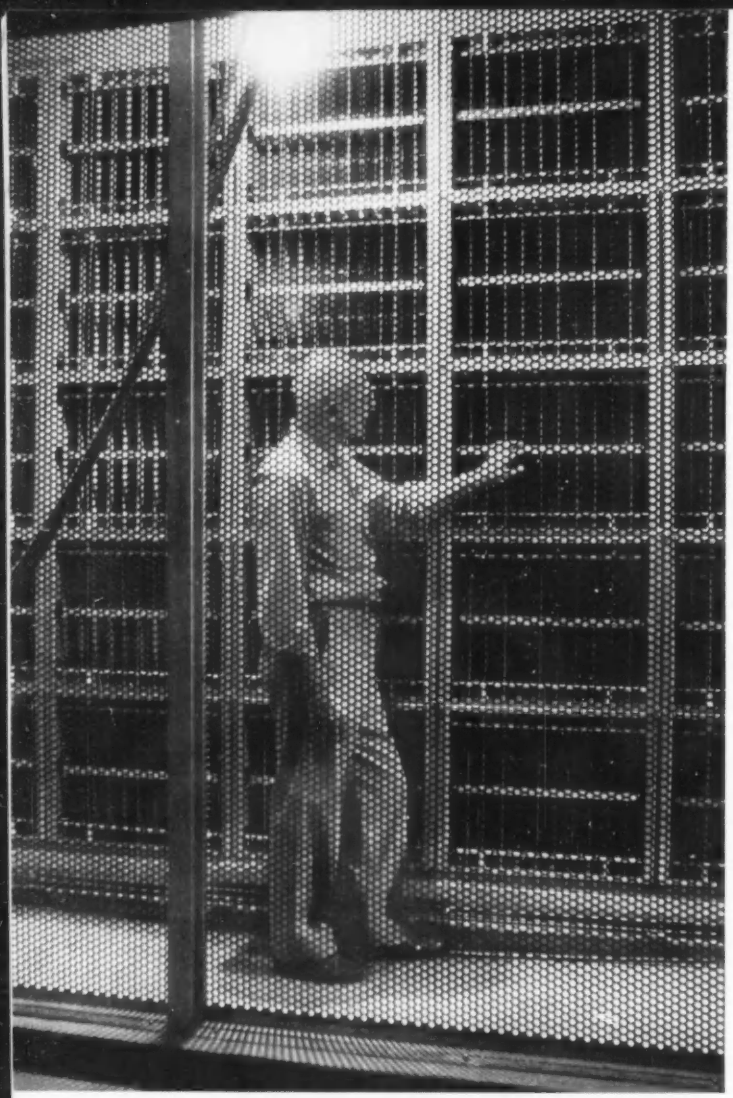
Jacob Dietrich, Building Engineer, Bankers Life of Nebraska; A. J. Whitmer, President, ABC Electric Company, Electrical Contractors; and W. F. Sterbens operate pushbutton of one of the combination Life-Line® starters in the motor control center portion of the 1500-kva power center. This control center feeds, protects and controls all motors and feeder circuits in mechanical equipment room.



One of two Westinghouse 200-hp Life-Line motors which drive compressors in air conditioning system. Westinghouse motors from 1 to 200 hp were specified for all auxiliary equipment drives. Having a single source of supply simplifies maintenance and spare parts problems for operating equipment. Discussing the installation are J. P. Anderson; C. E. Pickering; J. O. Unthank; and Harold Stebbins, Vice President, Bankers Life of Nebraska.

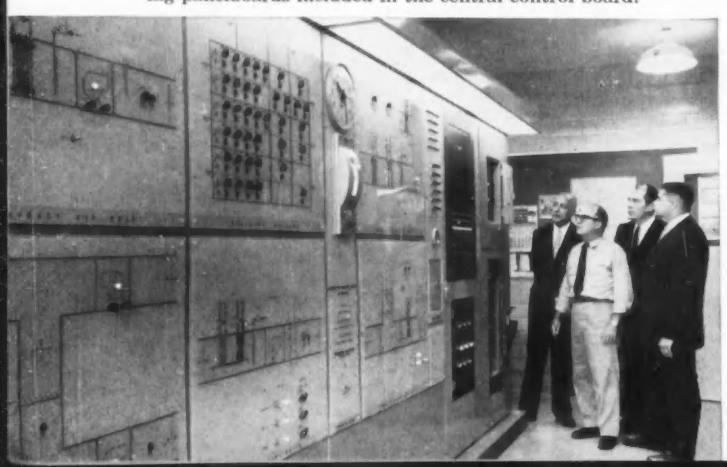


Harold Stebbins, C. E. Pickering, A. J. Whitmer, G. R. and J. O. Unthank are shown on one of the Westinghouse Selectomatic®-Automatic elevators which are traffic controlled to match, automatically, elevator service to traffic demand.



Jacob Dietrich views Westinghouse PRECIPITRON®, the Electronic Air Cleaner which removes up to 95% of all dirt particles, smoke and pollen in the air circulating throughout the building. This improves working conditions and also protects employe's health. The PRECIPITRON traps microscopic particles that cause streaks, smudges, damage to interior furnishings and office equipment, thereby reducing cleaning and maintenance costs.

This Supervisory Data Center in the Bankers Life Building is an electronic service board which registers temperatures and humidities throughout the building and automatically operates interior and exterior lighting, air conditioning and heating and even automatically turns on the sprinkling system for the landscaped grounds. Harold Stebbins, K. W. Bell, A. J. Whitmer and W. F. Sterbens inspect two Westinghouse NPLAB lighting panelboards included in the central control board.



Building designed for comfort, convenience, economy and expandability *(contd.)*

The planners and builders also recognized that, in specifying Westinghouse, they would enjoy the economics possible when buying from a single source of supply and later being able to minimize maintenance, spare parts inventory, replacement and expansion problems.

Westinghouse welcomes the opportunity to work with you in finding the best solutions to your own special electrical requirements. Call the Westinghouse Construction Specialist nearest you, or write to Westinghouse Electric Corp., Box 868, Pittsburgh 30, Pa.

OWNER:	Bankers Life Insurance Company of Nebraska, Lincoln, Nebr.
ARCHITECT:	Unthank and Unthank, Lincoln, Nebr.
CONSULTING ENGINEER:	James P. Anderson Company, Omaha, Nebr.
GENERAL CONTRACTOR:	Assenmacher Construction Company, Lincoln, Nebr.
ELECTRICAL CONTRACTOR:	ABC Electric Company, Lincoln, Nebr.
WESTINGHOUSE DISTRIBUTOR:	Westinghouse Electric Supply Company, Omaha, Nebr.

J-94136-4

YOU CAN BE SURE...IF IT'S

Westinghouse

WATCH "WESTINGHOUSE LUCILLE BALL-DESI ARNAZ SHOWS"
CBS TV ALTERNATE FRIDAYS

On Building Schools . . .

THE GORDIAN KNOT!

*by Benjamin B. Loring, President, Seaporcel Metals, Inc.**

The response was overwhelming. We published a paid public service advertisement discussing the pressures created by the new building materials (Arch. Record—March, 1960). We were swamped.

Hundreds of distinguished, articulate architects across the nation wrote offering their views of the problem.

Over 95% of the architects agreed with our approach. The balance did not. All, however, were concerned with the problems created in specifying the new architectural materials.

Most pressing of the problems, said the architects, was the ubiquitous "OR EQUAL" clause in Public Works and the confusion it creates.

This confusion, this intricate tangle, this "Gordian Knot" stifles architects. It hangs a millstone around their necks that grows heavier daily.

Who, after all, in this day and age can say what is equal? Can anyone inspect an installed or completed product and view its equality? Can mere surface dimensions furnish testimony to the excellence of manufacture? Of course not.

This is indeed, as architects tell us, a "Gordian Knot."

WHAT, THEN, IS THE SOLUTION?

From forward-thinking architects comes the cry: "Cut the Gordian Knot" . . . as Alexander The Great did.

Cut it first with air-tight specifications, received from reputable manufacturers, is the demand of many architects. Up-to-date, minutely detailed information concerning all the new architectural products is available from every reputable manufacturer.

Conscientious architects can emasculate the "OR EQUAL" type of substitution clause by drawing up specifications that leave no room for products that do not exactly meet the architect's needs. They can make it virtually impossible to use products of lesser function or quality than those planned.

Cut the knot next with the swift stroke of more carefully prepared contracts say other courageous architects. Write contracts to insure that any savings made by using products other than those specifically named be credited to the public agency.

Cut it again sharply by demanding more complete bids for public projects is a solution offered by some architects. Require that bidders on public projects name all the subcontracting firms supplying the materials included in such bids.

The severest . . . and most effective cut of all, say several architects themselves, is to insist upon direct specification. In their privately financed jobs, most architects would defend to the core their right to specify by product name. Yet many find it hard to resist such demands in public projects.

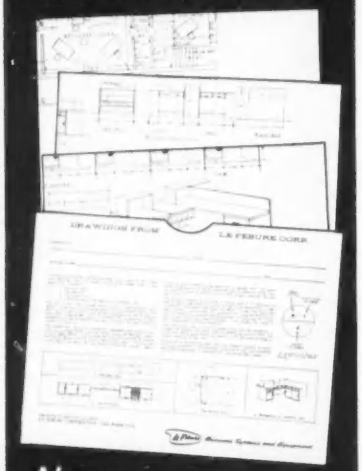
Finally, and most difficult by far, say the architects, is the direction in which we must all try to head. That includes all of us who want to build better public projects . . . the engineers . . . the architects . . . the manufacturers . . . the suppliers . . . the contractors . . . the public. We must all do what we can to educate the various contracting public agencies to allow omission of the "OR EQUAL" clause.

The architect's professional stature demands no less.

With every single advance in the building materials field, the "OR EQUAL" clause becomes less a protection, more a profit-maker; less a procedure for savings, more a product-substituting device; less a prudent practice, more a proviso for public loss.

*Benjamin B. Loring is President of Seaporcel Metals, Inc., 28-20 Borden Avenue, Long Island City 1, New York, manufacturers of architectural porcelain products, laminated curtainwall panels since 1931, with licensees in 22 countries throughout the free world. He has prepared this additional paid public service advertisement in the interest of the architectural profession. He invites your comment. (Reprints of this editorial and the previous one are available upon request.)

For Designing and Remodeling
BANKS and SAVINGS & LOAN ASSOCIATIONS



New
FREE KIT of PLANS

Financial building and remodeling is booming . . . and is going to continue at a record pace! This new kit, prepared by LeFebure's Architects Service Division, contains architectural drawings and chronological case histories of actual financial projects where LeFebure and the architect worked hand in hand.

LeFebure, with over 60 years' experience, is a recognized leader in the development of systems and equipment for banks and savings/loan associations.

See for yourself the results that are achieved when LeFebure experience is integrated with your own particular skills and talent. Send for this free kit for your files.

LeFebure
LeFEBURE CORPORATION
Cedar Rapids, Iowa

An Affiliate of Craig Systems, Inc., Laurence, Mass.

ARCHITECTS SERVICE DIVISION
LeFEBURE CORPORATION
Cedar Rapids, Iowa

SEE OUR CATALOG IN SWEET'S

Please send FREE KIT of Financial Building Case Histories and Plans

NAME

STREET OR BOX NO.

CITY & STATE

Washington Topics

the engineering field, have added to their staffs to permit a greater amount of technical aid where and when it is needed.

FHA Asks Closer Policing on Home Improvement Program

The Federal Housing Administration has called for closer policing of its Title I home improvement loan insurance program. A check of 1959 activities showed that some lenders failed to investigate fully the dealer-contractor applicants and that as a result, FHA suspended the contracts of a number of lending institutions and terminated the contract of others. An examination of the portfolios of those institutions led to the removal from insurance coverage of $1 million in transactions due to ineligibility.

All property improvement lenders were urged by the agency to analyze and evaluate carefully every new dealer-contractor applicant. Operation records should be checked constantly after an applicant is approved, FHA said.

Advisory Group Would Spur Pollution Control Program

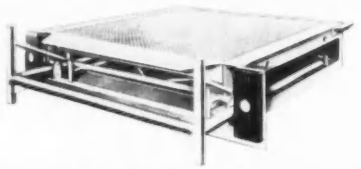
The Water Pollution Control Advisory Board to the Surgeon General has recommended "additional incentives" to meet the backlog of municipal waste treatment facility construction. Meeting in Washington for two days in January, the board also recommended extending Federal government jurisdiction to cover pollution of all interstate and navigable waters, provided that state concurrence is obtained before the Federal government enters into an intrastate pollution situation.

Regarding the program of waste treatment facility construction, the board said a careful analysis showed that these grants had significantly stimulated and increased construction of needed facilities without slowing down the rate of construction of such plants financed entirely with non-Federal money.

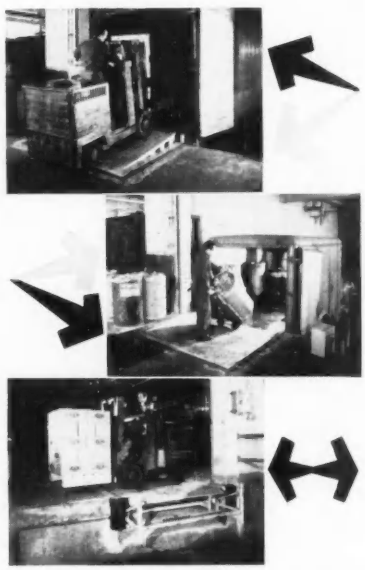
It was felt the budget should contain a separate and distinct item for

continued on page 366

SHORTEST SPAN TO PEAK PERFORMANCE



DOCKBRIDGE
AUTOMATIC LOADING RAMP



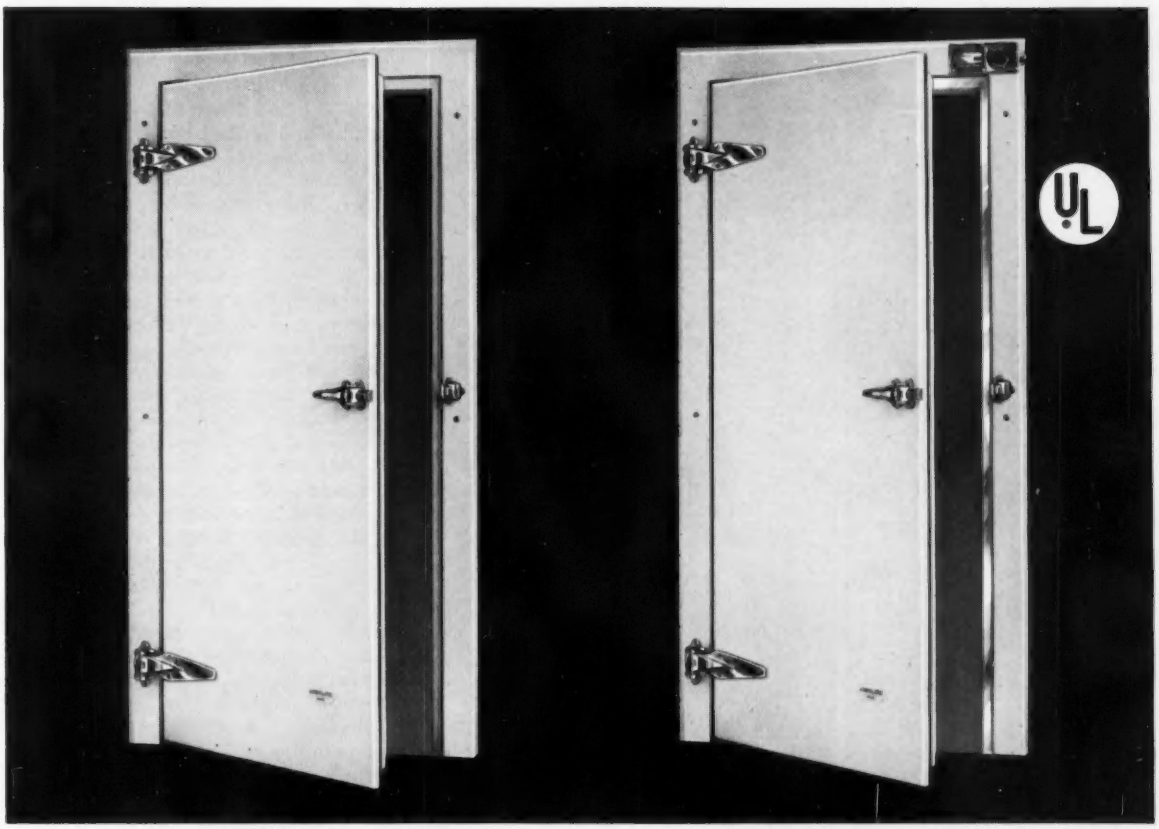
Specified Most Frequently Because of Installation Ease, Adaptability and Proficiency

You can stake your reputation on "DOCKBRIDGE" with utmost confidence. Throughout industry this fully-automatic, truck activated loading ramp is keeping trucks rolling and producing — eliminating wasted man hours. It accepts trucks up to 16" above and down to 10" below dock level. Provides for full cross traffic when not in use. No need for costly, complicated hydraulics or jury-rigged mechanisms. Only self-contained package ready to install in a prepared dock pit 17½" deep. Where pit is impractical, addition of four sturdy legs make "Dockbridge" a free-standing unit. Adaptable to either existing dock or new construction. Three models available: 6' x 6', 6' x 8', 6' x 10'. **Write for free catalog.**

AMERICAN DOCKBRIDGE, INC.
241 West Oklahoma Avenue, Milwaukee 7, Wis.

NEW FOR COOLER AND FREEZER ROOMS:

Lightweight, Colorful JAMOLITE Plastic Doors*



JAMOLITE Cooler Door

JAMOLITE Freezer Door
with Jamison Frostop®

Lightweight: Weight is 1/5 of metal clad cold storage doors.

4" Thickness: Cooler and Freezer doors are both 4" thick.

Impervious to moisture and vapor — easy to keep clean.

Colorful JAMOLITE doors come in gleaming white and four colors.

Frostop prevents ice formation at area of gasket contact.

● THE JAMOLITE DOOR is a completely new development in cold storage doors for the Food Service Industry. In hotels, restaurants and institutions JAMOLITE Doors are transforming interiors with new brightness and color.

Both cooler and freezer doors are flush-fitting and only 4" thick with new lightweight framing. Foamed-in-place polyurethane plastic provides highly efficient insulation, is permanently bonded to rigid fiber glass shell. Installation details for each door are practically identical.

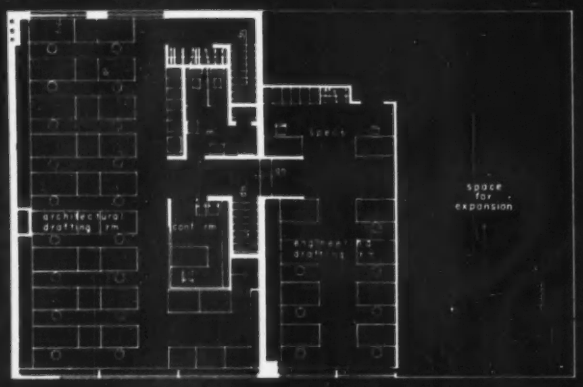
Complete data on new, lower-cost JAMOLITE is available in Sweet's; or write today for Catalog FS to Jamison Cold Storage Door Co., Hagerstown, Md.

*Jamison Trademark

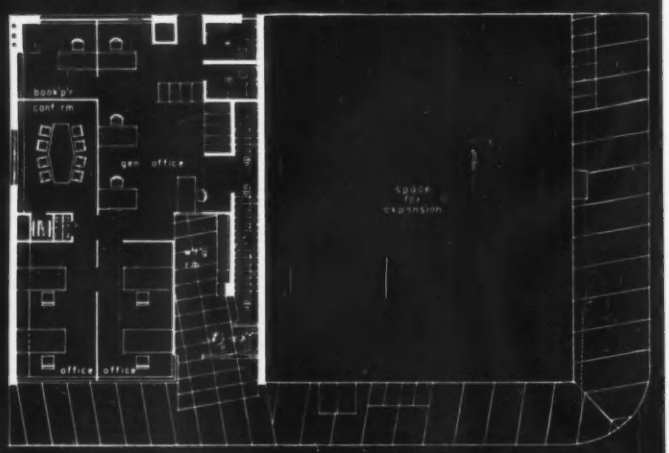
JAMISON
COLD STORAGE DOORS

A REPUTATION FOR SERVICE

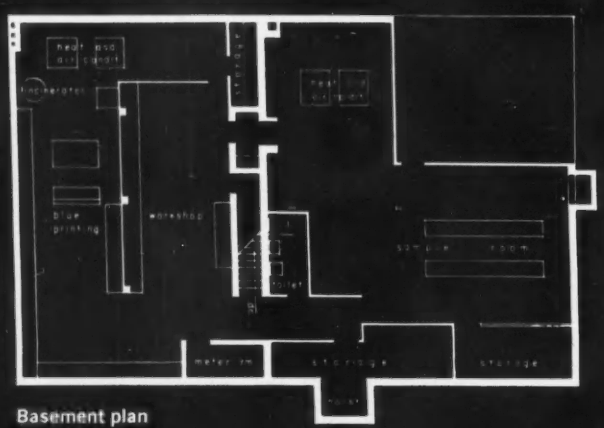
Offices of Celli-Flynn, Architects and Engineers, McKeesport, Pa.



Second floor plan



First floor plan



Basement plan

Quartered in a handsome building of their own design, Celli-Flynn carries on one of the largest architectural and engineering practices in Western Pennsylvania. Ten years of business have established the firm's reputation for high professional competence and services.

Celli-Flynn is noted, for example, for the thoroughness of their preliminary analyses and estimates – and for the complete documentation they present to clients in these critical phases. Among the interesting features of the office layout is a sample room in which specified products and materials are displayed for the approval of clients. Services like these exemplify the firm's concern for good architect-client communications and understanding.

In the area of communications with suppliers and contractors, Celli-Flynn places a great deal of importance on its cooperation with F. W. Dodge. One of the three Associates is assigned to provide pertinent data on all jobs in progress to the Dodge Reporter as it becomes available. Through Dodge Reports, this data is channelled to firms offering vital services and supplies . . . in each area where a project is to go up. Together with plans and specs filed in Dodge Plan Rooms nearest the building sites, the Reports expedite contract awards, buying decisions, and construction. They also help create bidding situations most favorable to Celli-Flynn's clients.

In addition, Dodge Reports relieve the staff of Celli-Flynn of the nuisance of many "cold" sales calls by directing the attention of vendors to current projects for which they may have applicable products or services to offer.

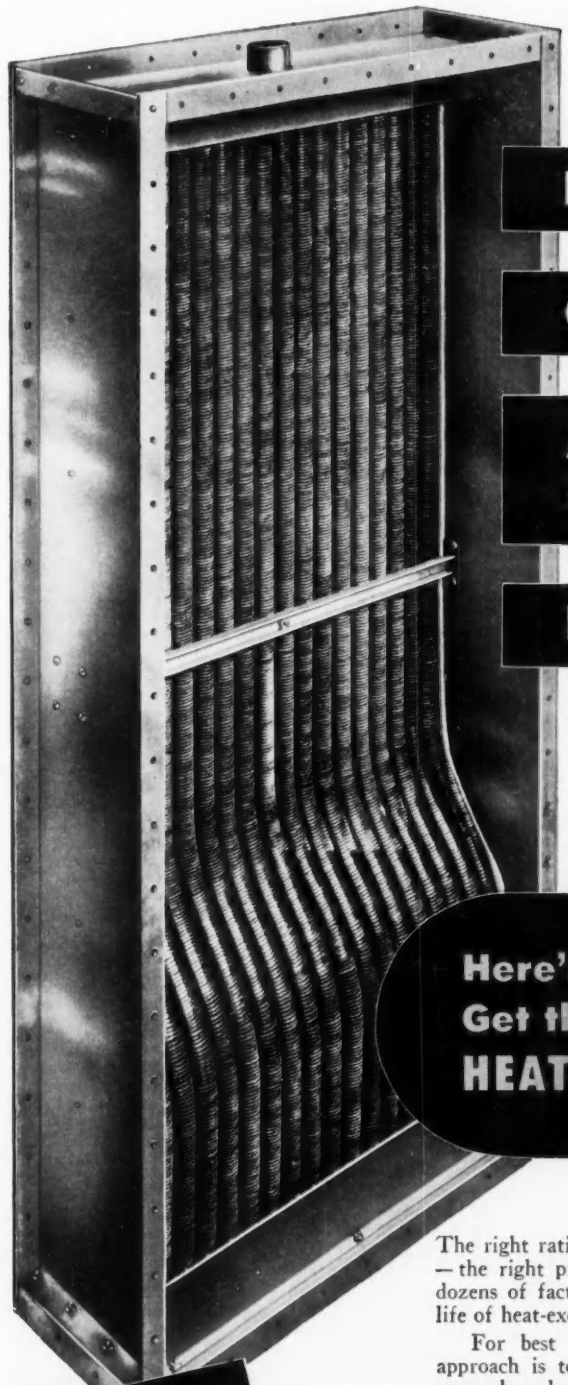
The practice of this progressive firm again testifies to the fact that DODGE REPORTS ARE A VALUABLE COMMUNICATIONS LINK BETWEEN THE ARCHITECT AND THOSE WHO SERVE HIM.

F.W. DODGE CORPORATION

DODGE REPORTS

CONSTRUCTION NEWS SERVICE

119 West 40th Street, New York 18, N. Y.



Heating?

Cooling?

Air Conditioning?

Process?

Here's How to Get the RIGHT Answer to your HEAT-EXCHANGE PROBLEMS

The right ratio of surfaces – the right materials – the right velocities – the right proportion between coil area and depth . . . there are dozens of factors that affect the efficiency, maintenance and service life of heat-exchange coils.

For best performance in your own application, the practical approach is to take full advantage of the unequalled engineering, research and design skill – the unequalled manufacturing and testing facilities – which Aerofin offers you.

To get the *right* answer – ask the Aerofin man.

Aerofin is sold only by manufacturers of nationally advertised fan system apparatus. List on request.

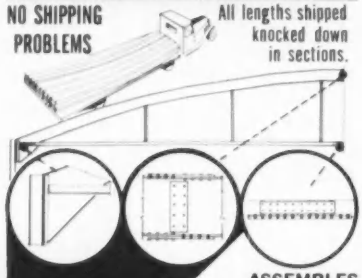
AEROFIN CORPORATION

101 Greenway Ave., Syracuse 3, N. Y.

SHLAGRO
TIED ARCH-BEAM
SPANS 40′ to 130′

NO SHIPPING PROBLEMS

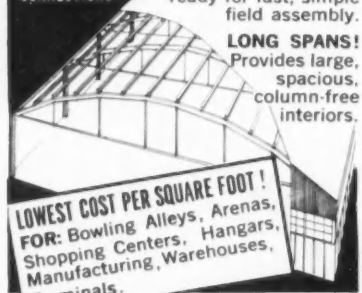
All lengths shipped knocked down in sections.



SIMPLE FIELD BOLT CONNECTIONS

ASSEMBLES IN MINUTES! Delivered ready for fast, simple field assembly.

LONG SPANS! Provides large, spacious, column-free interiors.



LOWEST COST PER SQUARE FOOT!
FOR: Bowling Alleys, Arenas, Shopping Centers, Hangars, Manufacturing, Warehouses, Terminals.

Write today for Catalog 125

another PRODUCT by the PIONEERS of SQUARE columns!

SHLAGRO
STEEL PRODUCTS CORPORATION
SOMERVILLE, MASS.

I am interested in Shlagro Tied Arch-Beam and other Shlagro Products checked below:

- ☐ #125 — TIED ARCH-BEAM
- ☐ #100 — STOCK STEEL ROOF TRUSSES
- ☐ #150 — STOCK STEEL LONGSPAN JOISTS
- ☐ #200 — SQUARE STEEL COLUMNS
- ☐ #225 — KARRI-MORE SQUARE COLUMNS
- ☐ #250 — SHLAGRO SHEAR HEADS
- ☐ #300 — STOCK STEEL TURNTABLES
- ☐ #350 — SCAFFOLDING
- ☐ #375 — SHLAGRO NO-DIAGONAL LONGSPAN JOISTS
- ☐ #400 — EGG-SHELL STEEL PLATE ROOFS
- ☐ #450 — SHLAGRO DOME STRUCTURES
- ☐ #500 — STOCK STEEL RIGID FRAMES
- ☐ #550 — STOCK STEEL VERTICAL MEMBER TRUSSES
- ☐ #600 — STEEL VERTICAL LIFT DOORS
- ☐ #650 — NO SHELL PRE-CAST FIREPROOF REINFORCED CONCRETE COLUMNS
- ☐ #700 — STEEL FLOORSPAN GIRDERS
- ☐ #725 — SHLAGRO TRIANGULAR GIRDER
- ☐ #750 — STEEL WELDED PIPE TRUSSES
- ☐ #775 — KARRI-MORE BEAM AND GIRDER
- ☐ #800 — STOCK STEEL MOMENT CONTOUR BEAM AND GIRDER
- ☐ #825 — SHLAGRO TAPERED GIRDER
- ☐ #850 — PREFAB BUILDINGS FLAT ROOF
- ☐ #875 — PREFAB BUILDINGS PITCH ROOF

name_____

title_____

AR-5

Please attach to your professional letterhead and mail to:
SHLAGRO STEEL PRODUCTS CORP.
SOMERVILLE, MASS.

Washington Topics

water pollution control activities for ready identification at all stages of the budget and appropriation process. All Federal and other public installations having waste disposal problems were urged to set an example to the rest of the country by better cooperation with state water pollution control agencies and the Public Health Services in installing needed waste treatment facilities.

The quality of the nation's water needs improvement, the board's report said, and enforcement provisions of the Federal Water Pollution Control agencies should be strengthened to assure both preservation and improvement. At the same time, it called for amendments to assure that sources of pollution will not be exempt from the provisions of the Act simply because of fortuitous geographic location.

The establishment of additional cooperative State-Public Health Service basic data stations was urged in view of the increased discharges of new products and wastes. Population and industrial growths as well as increased urbanization contribute to the problem, the Board contended.

A sufficient number of these stations should be established, it advised, to enable states, localities, industries and the Federal government to protect the public health and conserve waters for all uses. Such stations provide information on the quality of the nation's water.

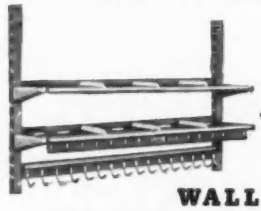
Meanwhile, Interior Secretary Fred A. Seaton, in his report on the 1959 activities of his Department, warned that the availability of water—just plain, ordinary water—was rapidly becoming a major concern to America and to the world. He predicted that by 1975-1980 it may well be the number one domestic problem for the United States.

Interior is sponsoring construction of five saline and brackish water conversion plants; demonstrators in the process of changing salt water into fresh.

Here's the problem—America now uses 240 billion gallons of water daily. With anticipated population increases, Interior estimates that within 20 years the need will be 500 to 600 billion gallons each day. Said

continued on page 370

Schooline®
WARDROBE SYSTEMS



Fixed columns • adjustable shelves

Adjustable Height

WALLMOUNTS

Solve the pupil wraps problem efficiently with Wallmount Coat and Hat Racks. Mount on any available wall space. Hat shelves and hanger bar adjustable on permanently attached columns to height for any age group. Double hat shelves and double row of spaced coat hooks accommodate 6 pupils per running foot. Basic 3′ 2″ or 4′ 2″ units interlock to make continuous racks to fit any space or capacity requirements.



Corkrobe —combination wardrobe rack and corkboard

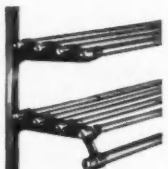
Chalkrobe —combination wardrobe racks and chalkboard

CUSTOM-LINE



Aluminum
Coat and Hat Racks

Tailored to fit any given open or closeted wall area. Smart in design and modern in "clear", "gold" deep etched anodized finishes and combinations. Quality built—closed-end aluminum tubing, rigidly held in cast aluminum brackets that are adjustable for height in dovetailed mounting extrusions. Brackets also adjustable to any desired centers.



Detail shows how dove-tail extrusions (which mount on any centers) hold brackets at any desired height.

Checker®
COAT *and* **HAT RACKS**



Bring checkroom efficiency to the church and Sunday School. Keep wraps in an orderly manner—aired, dry and "in press". No. 3 wall racks come in any length to fit; 4 spaced coat hangers and hat spaces per running foot. Mount on wall at the desired height for each age group.

The 5 ft. Portable No. 50 Checker accommodates 50 people, goes wherever needed on large ball-bearing-swivel casters. Answers the wraps problem, in vestibules or for meetings, dinners, etc. Efficient, sanitary, fireproof and quality built for lifetime service of welded, heavy gauge steel with square tubular columns.

Write for Bulletin CK



Wardrobe units for every church need including portable umbrella and overshoe racks for entrances, and storage racks for robes.

Write for Complete Catalog #52

VOGEL-PETERSON CO.

Rt. 83 and Madison St., Elmhurst, Ill.


Von Duprin 66
"the safe way out"
in stainless steel
● Stainless steel . . . slim silhouette . . . sure safe operation.
They're all yours in the Von Duprin 66, the exit device that introduced the industry to the practical beauty of stainless steel.
Available in rim, mortise lock and vertical rod models (in bronze as well as stainless steel) with a smart new series of matching outside trims.
Write for your copy of Bulletin 581 . . . full details on construction, function and accessory items.
VONNEGUT HARDWARE CO. • VON DUPRIN DIVISION
402 W. MARYLAND ST. • INDIANAPOLIS 25, INDIANA

THE ILLUSTRATION: OLD MISSION JUNIOR HIGH SCHOOL, MERRIAM, KANS. • ARCHITECTS, PERKINS, & WILL; PHOTO, SUTER, HEDRICH-BLESSING

THE NATION'S SCHOOLS STANDS SQUARELY FOR



SCHOOL ADMINISTRATION BY SCHOOL ADMINISTRATORS

an F. W. DODGE CORPORATION publication

—and for constant growth of the ability and responsibility of the career professional school administrator. • THE NATION'S SCHOOLS believes that the proper responsibility of the school board is to establish the broad policies which the administrator and his administrative staff shall carry out, to delegate authority to carry them out, and to evaluate performance in terms of the results achieved. After two generations during which this procedural principle has been evolving, it is today almost universal in both theory and fact. • THE NATION'S SCHOOLS *was established in this concept in 1928 and has based its service to the top management group in American education on these beliefs during thirty years of successful publishing. For the past twenty-three years, more members of the top management group have subscribed to* THE NATION'S SCHOOLS *than to any comparable magazine.*

THE Nation's Schools

THE NATION'S SCHOOLS DIVISION, THE MODERN HOSPITAL PUBLISHING CO., INC.
919 NORTH MICHIGAN AVENUE, CHICAGO 11, ILLINOIS



"G-E Remote-Control Wiring has saved money since the day it went into this building in 1953," says Mr. Donnelly, standing in front of 3-story, block-long office building, Menands, N. Y.

"G-E Remote-Control Wiring saved us $20,561 in this N. Y. Telephone building - on installation alone!"

... Mr. H. J. Donnelly, Supervising Electrical Engineer New York Telephone Company, Albany, N.Y.

"We compared General Electric Remote Control with an ordinary switching system that would give us the kind of lighting control we wanted," says Mr. Donnelly. "We were surprised to find that, in addition to its other advantages, the G-E low-voltage system cost $20,561 less to install!

"On top of the initial savings, we reduced our operating costs, because G-E master switching makes it easy for maintenance crews to turn ON only those lights needed, rather than lighting up whole floors. Switches at convenient locations save our men extra steps, too.

"These savings were all in addition to the original reason we considered Remote-Control. That was extra safety in controlling the 480Y/277-volt power system we chose for its saving in branch circuit copper. Remote-Control relays in the ceiling control the 277-volt lighting circuits, so there's only a low, 24 volts at the switches. Of course, the lightweight, 24-volt switch wiring makes it easier to relocate office partitions, too. And the elimination of switch-loop voltage drops that can cut the life and efficiency of lamps, is still another feature."

General Electric would appreciate the opportunity of working with you on the design of a Remote-Control Wiring System tailored to fit your particular needs. Write Commercial Engineer, General Electric Company, Wiring Device Department, Providence 7, Rhode Island.



"Douse the lights you don't need!" is standard procedure for maintenance crew, in building from 5:00 to 11:00 p.m. G-E Remote Control makes it easy.

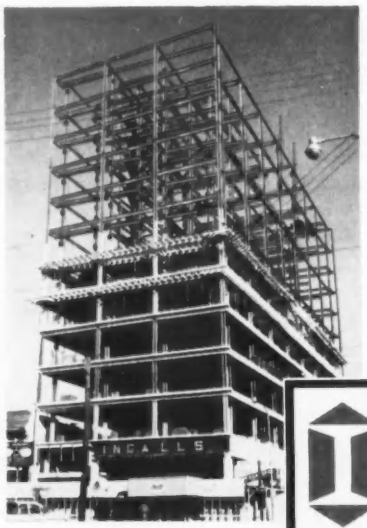


G-E master selector switches at ends and center of each floor control lighting separately for each ½ floor. Building contains 2000 fluorescent lamps.

Progress Is Our Most Important Product

GENERAL ELECTRIC

atlanta banks on structural steel by...



A soaring population of over a million .... a soaring skyline of modern office buildings. That's Atlanta today. And typical of this dynamic trend is First National Bank's new branch office structure shown here. Over 1,300 tons of structural steel .... fabricated and

THE
INGALLS
IRON WORKS COMPANY
Executive Offices
BIRMINGHAM, ALABAMA

STEEL PLATE FABRICATORS ASSOCIATION

AISC

AVOID BUCKLING & WARPING OF MAPLE FLOORING

with EDGE GRAIN CONNOR'S "LAYTITE"®

UP TO 50% LESS EXPANSION in the use of Edge Grain

(According to Forest Products Laboratory)

Use "LAYTITE" EDGE GRAIN for:

- ★ LESS EXPANSION AND CONTRACTION
- ★ MORE YEARS OF HARD WEAR
- ★ LIGHTER AND MORE UNIFORM COLOR
- ★ LESS DIFFICULTY IN HUMID AREAS

CONNOR Forest Products Since 1872

SCHOOL AND GYM FLOORS OUR SPECIALTY

See Sweet's File Specs #13J/CO. ® U.S. Pat. Off.

CONNOR LUMBER AND LAND CO.

PHONE VI-2-2091

P.O. BOX 810-G • WAUSAU, WISCONSIN

Washington Topics

Secretary Seaton's report—"One day—sooner than many people believe—the United States will have to follow a new trail for its water supply, at least in certain areas."

Existing-House Sale Changes Activated by FHA

The Federal Housing Administration finally placed in effect in all of its 75 field offices the program for easier trade-in financing and sale of existing housing authorized in the Housing Act of 1959. Under the new provisions, persons or firms, such as builders, owners of houses for sale and other third parties (including real estate brokers) can receive maximum mortgage insurance commitments for existing homes. Once qualified and approved, the temporary non-occupant owner is in a position to offer for sale the existing home with a maximum mortgage and minimum down payment. When a new owner-occupant is found, there will be a substantial savings in settlement costs.

Now at least 15 per cent of the maximum mortgage money is set aside in escrow with the lender for as long as 18 months. In this period the existing home must be sold and occupied by a new owner-occupant if the maximum mortgage insurance is to continue in effect. Otherwise, the escrow fund is used to reduce the mortgage principal.

Applications for qualifications under the program now are being taken in the agency's district offices. Fee is $20.

INGALLS

erected by Ingalls . . . . frame its distinctive design. When you plan with steel, you make a sound investment. Savings, strength, and security are your dividends . . . . year after year after year. And when you call in Ingalls, you can bank on skill and experience in building that investment. Plan with steel—and Ingalls—on your next job.

Architect: Francis P. Smith
Engineer: Robert G. Lose
Builders: Daniel Construction Co.
Steel Fabrication: The Ingalls Iron Works
Steel Erection: The Ingalls Steel Construction Co.



HHFA Issues New Statement On Nondiscrimination

The Housing and Home Finance Agency is applying its racial rules on nondiscrimination rigidly in all states forbidding any segregation policy in housing. Purchasers of land in urban renewal areas in these states have been notified they must comply fully with the statutes.

Under the instructions sent out by Urban Renewal Commissioner David M. Waler, local redevelopment agencies in those affected states will present to prospective redevelopers a formal notice citing the applicable laws and reading further:

"Developers of urban renewal project land are expected to conduct their operations in conformity with state and local laws. A final determination by a state or local tribunal that a developer has used such land in violation of the provisions of any such state or local law prohibiting discrimination may result in the refusal of URA to concur in the disposition of any other project land to that developer."

Housing Administrator Mason commented:

"The purpose of this notice is to make clear to those undertaking redevelopments of urban renewal areas that the Federal government stands ready to support valid enforcement actions of state and local authorities with respect to anti-discrimination statutes, just as we do with respect to other applicable state and local laws."

The URA notification system is similar to that instituted four years ago by the Federal Housing Administration relative to the insurance of private housing mortgages.

This *Young* REGULATOR controls 2 dampers *over 250 feet away!*

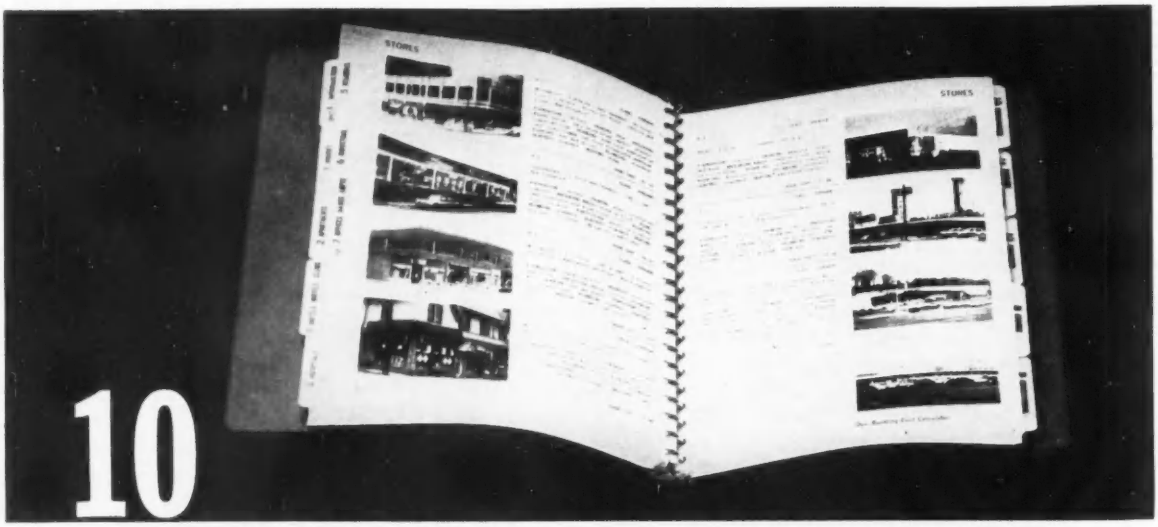


No other regulator matches the performance of No. 700A Young Remote Control Regulator. It gives individual room control of heating or air conditioning by simply turning the knob to the desired position.

Using Young Corner Pulleys this manually controlled regulator operates two Young No. 805 Dampers, size 18" x 12", over 250 feet away.

Write for complete information or see our Catalog in Sweet's Architectural File.

YOUNG REGULATOR COMPANY
20910 Miles Ave., Cleveland 28, Ohio



10 PROFITABLE WAYS FOR ARCHITECTS TO USE THE DOW BUILDING COST CALCULATOR

It's the easy, time-saving, authoritative way to . . .

- Figure building costs in minutes . . . save hours and even days over other methods
- Make reliable advance budget estimates
- Get costs within contractors' normal bidding ranges
- Check the reasonableness of contractor bids
- Take local price variations into account wherever you plan to build
- Advise your clients of cost variants in different localities
- Find historical cost data covering 150 metropolitan areas . . . bring old estimates up-to-date
- Keep abreast of changing cost patterns throughout the country
- Get results recognized as authoritative by courts of law
- Make reliable replacement cost appraisals

With the Dow Building Cost Calculator and Valuation Guide, you can quickly prepare authoritative building cost estimates. The Calculator is in a continuous state of revision reflecting changes in material prices and labor rates. You stay up to date by receiving revisions or supplements every three months, or oftener. The Building Cost Calculator is issued by F. W. Dodge Corporation, the foremost construction information authority.

NOW . . . A SPECIAL 10-DAY FREE TRIAL OFFER

F. W. Dodge Corporation
119 West 40th Street, New York 18, N. Y.

Please send me the new Dow BUILDING COST CALCULATOR. I understand that after using it for ten days, I may return it and be under no obligation. If I keep it you may bill me for $32* to cover the CALCULATOR and quarterly supplements for an entire year.

Name_____

Firm_____

Street & No._____

City_____ Zone_____ State_____

*plus 3% sales tax in New York City, Florida, California, South Carolina; 2% sales tax in Washington, D. C.

Just mail this coupon to try it. If you don't think it's worth the low cost of $32 for a year's subscription (including the handsome starting book plus quarterly revisions and supplements), return it and be under no obligation.

Dow
BUILDING COST CALCULATOR
and valuation guide

F. W. DODGE CORPORATION
119 West 40th St., New York 18, N. Y.

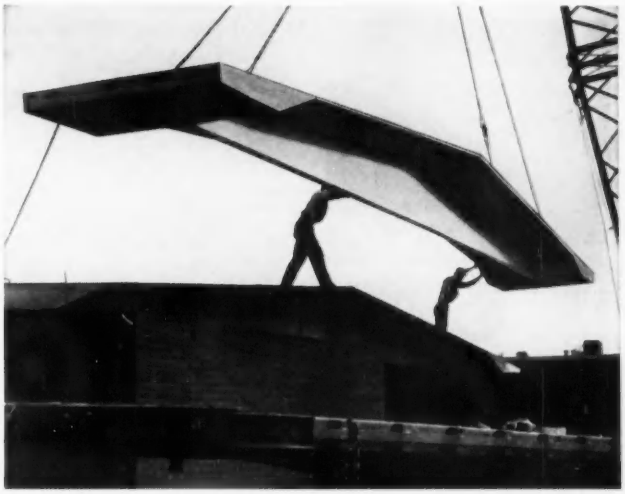
REFRESHINGLY NEW...

FLEX-TEE*

A PRESTRESSED, SINGLE STEM, PITCHED ROOF DECK†

Here is the new roof member that fulfills *both* architectural and structural requirements for commercial, industrial and residential structures, schools and churches.

Backed by a carefully engineered and thoroughly tested design, here are some of the features which explain the growing acceptance of FLEX-TEES for use on many structures—Pleasing appearance of the 1 : 12 roof pitch; choice of any span (clear) between 24′ and 52′-8″ in 6′ width; optional overhang with flat cantilevered soffit; elimination of filler blocks at ends; simplified bearing wall construction; anchor dowel connections to walls requiring no welding; uniform camber allowing immediate and rapid application of insulation and roofing material; reduced erection time because of rapid closure of buildings; suitability of underside for handsome exposed beam or hung ceiling treatment.



The simplicity of manufacturing FLEX-TEES in a production yard or at the jobsite adds to the economy and flexibility of this roof deck.

For complete details, write for new brochure.

Manufacture of FLEX-TEES authorized under franchise.

FLEXFORMS, INC.

Affiliated with The Prescon Corp.

1445 West Quincy Englewood, Colorado

†PATENTS APPLIED FOR *TRADEMARK

Leading Architects tell us:

MIDGET LOUVERS HELP PREVENT MOISTURE DAMAGE



"REGULAR" —with screen and all-weather deflector.



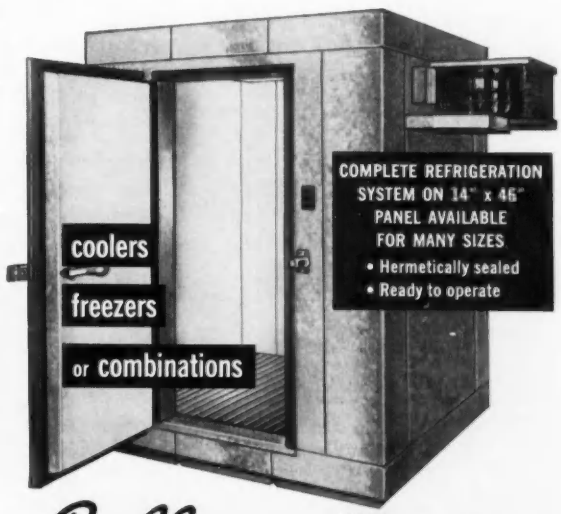
"LD"—screened for interior and protected exterior locations.



Specify the installation of the original Midget Louvers in eaves, walls, floors to release trapped moisture, excess heat that cause corrosion, peeling paint. This economical ventilation method is especially valuable where the new non-porous building materials are used. Midget Louvers install easily in wood, metal and concrete without nails or screws — merely tap into drilled hole. Available in anodized aluminum, chrome and copper in seven sizes from 1 inch - 6 inches. Sold by leading building supply dealers, or write:

MIDGET LOUVER COMPANY

6 WALL STREET • NORWALK, CONNECTICUT



Bally walk-ins

Aluminum or steel sectional construction

Sanitary! Strong! Efficient! You can assemble any size cooler, freezer or combination in any shape from standard sections. Add sections to increase size as your requirements grow. Easy to disassemble for relocation.

ARCHITECTS: see 8 pages of engineering data in Sect. 26/A of Sweet's Catalog.

Bally Case and Cooler, Inc., Bally, Pa.

Get details — write Dept. AR-5 for FREE book.



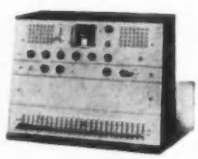
SPECIFY Rauland

the very finest in

Central Control Sound Systems



for:
SCHOOLS
INSTITUTIONS
INDUSTRY



designed to stay modern for years

your choice of every desirable modern feature & program facility

RAULAND Central Control Sound Systems are available to fit your exact sound distribution needs. Available features include:

FM-AM Radio—selects any radio program on FM or AM for distribution to any or to all locations as desired

Phonograph—distributes phono program (transcription player or record changer); also available for use with tape recorder

Microphone Origination—selects and distributes sound from multiple microphone locations

Intercom—permits 2-way conversation with any or all locations (up to a total of 220 locations or rooms)

Special—Emergency Switch; all-call; signal clock provision; telephone intercom; remote control, etc.

RAULAND SYSTEMS are available to meet all your sound distribution needs. Send for FREE catalog and detailed specification sheets.

WRITE TODAY Rauland

RAULAND-BORG CORPORATION
3535-R Addison Ave., Chicago 18, Ill.

☐ Send full details on all RAULAND Central Control Sound Systems

*Name*_____

*Firm*_____

*Address*_____

*City*_____ *Zone*___ *State*_____

Required Reading

continued from page 64

Mars . . .

Later findings by the wee men from Mars include a world "divided into two great regions: one, to judge its name from the most prevalent signs, is called Coca-Cola and the other Vodka."

The U. N., the Guggenheim Museum, current architecture in general, the electronic age with its high IQ mechanical minds, and we poor dumb earthlings take quite a beating. A friendly one, however. The book is fun from cover to cover as would be expected of its author. The Dunn bulldozer levels the building site effectively, but without unnecessary damage.

This is Alan Dunn's best to date in the opinion of at least one reviewer. It is an overdue, yet gentle, slap at our 20th Century smugness. Maybe we are not quite so smart as we think we are! Read and re-read; decide for yourself. Mr. Dunn, artist and cartoonist *par excellence*, proves also to be a philosopher.

—*Florence A. van Wyck*

Index Time, Again

THE ARCHITECTURAL INDEX. *Edited by Ervin J. Bell. The Architectural Index, 517 Bridgeway, Sausalito, Calif. 56 pp. $5.*

This edition marks the tenth year of issue of this useful index. As usual, it covers *Arts and Architecture, Architectural Forum,* ARCHITECTURAL RECORD, *House & Home, Interiors, Progressive Architecture and the Journal of the American Institute of Architects.*

Received and Noted

ARCHITECTURAL RENDERING: THE TECHNIQUES OF CONTEMPORARY PRACTICE. *By Albert O. Halse. F. W. Dodge Corporation, 119 W. 40th St., New York 18. 304 pp., illus. $15.75*

MODERN EUROPEAN ARCHITECTURE. *By A. Dorgelo. Elsevier Publishing Co., Amsterdam. Distributed in U.S.A. by D. Van Nostrand Co, Inc., 120 Alexander St., Princeton, N. J. 243 pp., illus. $27.50.*

A large format picture book, which,

continued on page 380

Need to Cut Cafeteria Costs?

Both cubage and equipment can be saved by designing cafeterias for economical all-paper food service.

See how both operating and construction costs are being cut and service is improved in hospitals, schools and industry through the use of this personal food service.



Write on your letterhead for this big 60-page Manual of Paper Food Service.

The Paper Cup and Container Institute, Inc.
250 Park Avenue, New York 17, N. Y.

PAPER
the personal food service



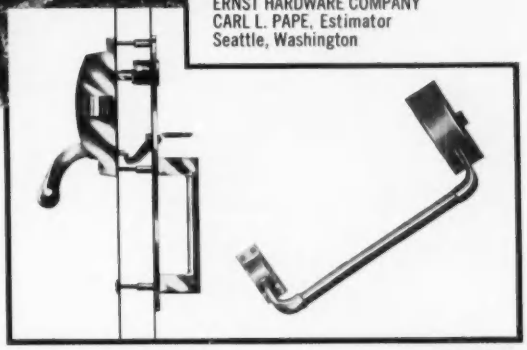
Sammamish High School

Belleview, Washington

Architects & Engineers:
NARAMORE, BAIN, BEADY & JOHANSON
Seattle, Washington

General Contractors:
GEORGE E. TEUFEL CO.
Seattle, Washington

Hardware Supplier:
ERNST HARDWARE COMPANY
CARL L. PAPE, Estimator
Seattle, Washington



Sixty-one SG-5300 Series Exit Devices with Uni-Trim and mullions were selected by the Belleview, Washington, School District No. 405 for added security, less maintenance and assurance of safe exit.

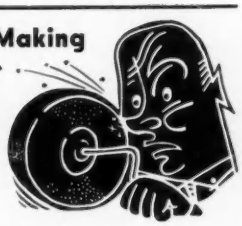
UNI-TRIM EXIT DEVICES precisely align trim and lock, forming a co-ordinated unit providing rigid fastening of lock and trim. The clean, modern design of Uni-Trim presents a handsome appearance combined with strength and durability. The selection of superior hardware always complements superior buildings.

SARGENT & GREENLEAF, INC. • ROCHESTER 21, NEW YORK

SEE OUR CATALOGS IN SWEET'S

Try Our Solution For Making Things Rough All Over

RUFFUPP



Double Duty Concrete Retarder With Controlled Action Exposes Aggregate

RUFFUPP solution is a single product specially formulated to do the work of two products to expose aggregate in concrete construction. You can use RUFFUPP either on the surface of freshly placed concrete or on the wood or metal form work. An easy to use liquid, RUFFUPP, delays but does not kill the set. Your surface can be cleaned with water hose and broom to expose aggregate in 12 to 24 hours. Non-staining even with light colored aggregate and white cement. One gallon covers from 100 to 150 square feet depending on use. Create unlimited opportunities in design and texture by using RUFFUPP — the double duty concrete retarder for exposing aggregate. For complete information, specifications and down to earth prices call or write to—

Dept. AR-2

CERESIT

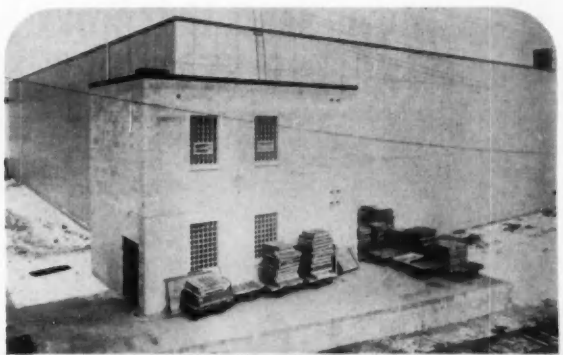
Protect · Beautify · Repair

Specializing in making the finest iron for metallic hardening and in the highest quality surface and integral cement additives, coatings, colorants, hardeners and sealers, concrete repair materials, waterproofing compounds and grouting materials.

CERESIT

CERESIT CORP.
3227 S. Shields Ave., Chicago 16, Illinois

Since 1909



MASTERFREEZE Panels were used for the World's Largest Modular Engineered Public Cold Storage Plant. — 2 stories high — 122 ft. by 162 ft.

Saves up to 40% on operating costs!

CHECK THESE MASTERFREEZE FEATURES . . .

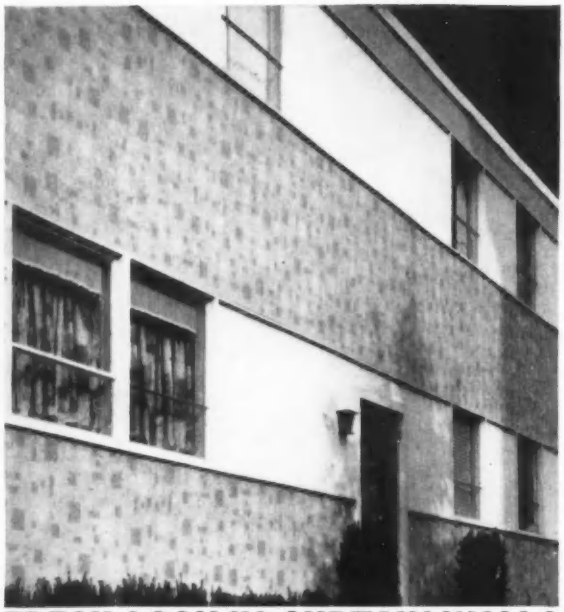
- Expandable & Portable
- Lifetime Construction
- Delivered & Erected At Lower Cost
- Positive Moisture Seal
- Designed For Any Size — Any Shape Building or Interior

Write for complete information

MASTERFREEZE

CORPORATION • SISTER BAY 5, WISCONSIN

or Contact Your Nearby Armstrong Contracting Office



FRESH LOOK IN CURTAIN WALLS
...YOUR OWN PATTERNS IN

for more information, write:
Stylon Corporation, Milford, Mass.
Western Subsidiary: Redondo Tile Co.
Redondo Beach, California.

CERAMIC **Stylon TILE**

The only gym seats that provide ALL THE TOP FEATURES



MEDART
TELESCOPIC GYM SEATS

- Vertical fronts prevent accidents, permit recessing
- Four vertical uprights per row put load on floor, not wall—distribute weight evenly
- Interlocked uprights insure straight-line trackage, make operation easier
- Toughest, abrasion-resistant seat finish known
- More leg and foot room—greater visibility

Write for catalog



POWER OPERATION Key-operated. Opens and closes entire banks of seats in seconds, safely, quietly. Adds only a fraction to seat cost.

FRED MEDART PRODUCTS, INC.
3540 DeKalb St. • St. Louis 18, Mo.

Available Now!

Motels, Hotels, Restaurants and Bars

by the editors of *Architectural Record*

Completely Revised and Expanded Second Edition

Over 200 NEW pages.....50% MORE material

This informative book will present an up-to-date, detailed study of physical design in motels, hotels, restaurants, and bars, and show the important relationship between good design and good business.

Over 700 illustrations of successful establishments show where well-planned, functional design has paid off in flourishing trade and satisfied clientele. Each case study is profusely illustrated with interior and exterior photographs and floor plans. In many instances, structural diagrams are also included for clarity. Each study thus becomes a compact survey of the building, its purpose, and its problems.

Every word of this valuable book is designed to save you time and work in countless ways, and to open up new opportunities for you in this active field. The editors of ARCHITECTURAL RECORD have selected only the best and most significant projects. They guide you expertly through an area where good design has an amazing bearing on eventual success.

Architects, designers, and their clients will find this book to be the clearest, most practical source of ideas in this field today.

324 pages • 8¾ x 11⅝"

Over 700 photographs, plans, and diagrams

Only $9.75

DODGE BOOKS, F. W. Dodge Corporation
119 West 40th Street, New York 18, N. Y.

Send me _____ copies of MOTELS, HOTELS, RESTAURANTS AND BARS @ $9.75. Within ten days after receipt, I will either remit payment, plus postage, or return the book(s) without obligation.

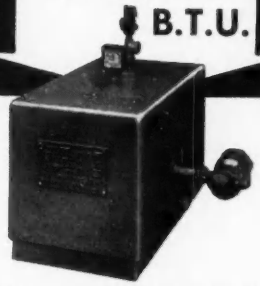
Name .....

Address .....

City ..... **Zone** ..... **State** .....

☐ **Enclose payment, Dodge pays postage. Same return privilege**

ELECTRIC HOT WATER HEAT TO 2,000,000 B.T.U.



- 40,948 B.T.U. to 2,000,000 B.T.U. Output.
- All units meet the requirements of the ASME Boiler and Pressure Vessel Code.

PRECISION *Electric* HOT WATER HEATING BOILER

- **Complete unit ready for installation** with circulating hot water system and water chiller for year-round air-conditioning.
- **Conversion easily accomplished** where other type fuels now used. Suited for homes, churches, apartments, hotels, motels, hospitals, commercial buildings, swimming pools, snow melting and domestic hot water. Temperature Range 60 to 250 degrees.
- **Every unit tested and inspected.**

Write for color brochure and prices.

PRECISION parts corporation
400-AR North 1st. Street
Nashville 7, Tennessee

No ducts! No noise! No chimney! No odors! No flame!



BOECKH'S MANUAL OF APPRAISALS

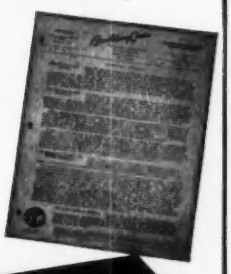
5th Edition — just published

Over 100,000 individual unit costs—more than 300 buildings, with hundreds of variations, all easily converted to local cost conditions.

YOU CAN FIGURE YOUR BUILDING COSTS ..... quickly and accurately .....

BUILDING COSTS — published monthly

A supplementary service giving an analysis of current market conditions and latest cost indexes for the major metropolitan areas of the U. S. and Canada to convert to local cost conditions.



SEND TODAY FOR COMPLETE DETAILS

E. H. Boeckh & Associates
1406 M Street, N. W.
Washington 5, D. C.

6-IN-ONE

"BIG SIX" NEWS FOR ARCHITECTS

GENERAL CHEF combines six kitchen-essentials in one compact, efficient unit:

REFRIGERATOR • OVEN • SINK
STOVE • FREEZER • STORAGE

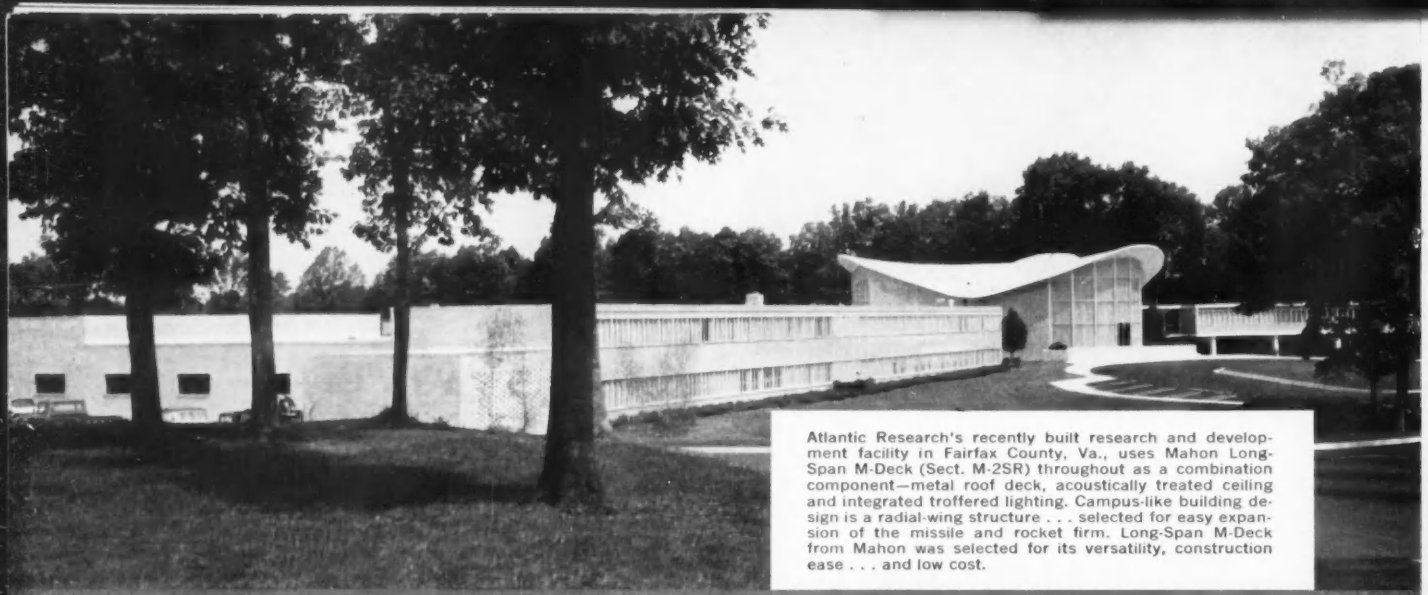
Every model available in white or several wood-grain finishes. Entire base unit factory-assembled and shipped in one crate. Available on all units: garbage disposal; one-piece stainless steel tops. And don't forget: GENERAL CHEF is the only Complete Kitchen Unit with factory-owned, nation-wide sales and service.



For complete details write:
General Air Conditioning Corp.
Dept. H-18, 4542 E. Dunham St.
Los Angeles 23, California

GENERAL CHEF

World's largest-selling
COMPLETE KITCHEN UNIT

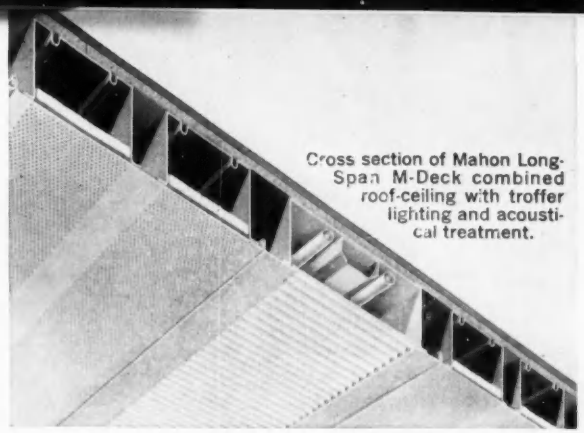


Atlantic Research's recently built research and development facility in Fairfax County, Va., uses Mahon Long-Span M-Deck (Sect. M-2SR) throughout as a combination component—metal roof deck, acoustically treated ceiling and integrated troffered lighting. Campus-like building design is a radial-wing structure . . . selected for easy expansion of the missile and rocket firm. Long-Span M-Deck from Mahon was selected for its versatility, construction ease . . . and low cost.

MAHON MULTI-USE LONG-SPAN M-DECKS

Interior view of one of Atlantic Research's engineering sections showing ceiling side of Mahon Long-Span M-Deck —attractive, functional and noise proofed. Troffer lighting M-Deck sections harmonize with surroundings—provide diffused, glare-free illumination.





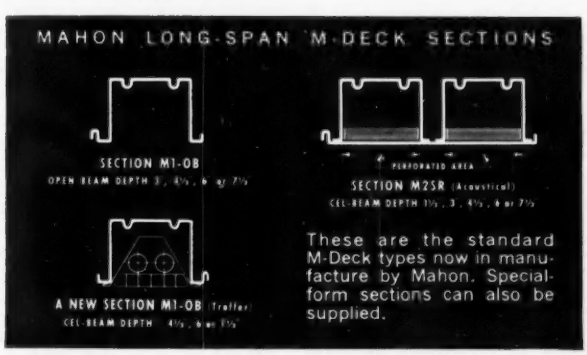
Cross section of Mahon Long-Span M-Deck combined roof-ceiling with troffer lighting and acoustical treatment.

Today, more than ever, architects and engineers are depending on Mahon Long-Span M-Decks as proven, multi-purpose roof sections that provide a combined structural roof deck and ceiling. Now, for less cost than once required for conventional steel roof systems, you can also specify functional ceilings that fit into almost any job.

short-cuts to quality construction —long strides toward cost reduction

These steel sections give you more design and construction advantages . . . (1) adaptability: serving as structural members, roof decks, finished ceiling material—even acoustical treatment; (2) efficiency: high strength-to-weight ratio permits spans from wall-to-wall or truss-to-truss . . . roof beams and purlins can be eliminated; (3) economy: easy handling, fast erection, rapid covering—saving time, labor and material; and (4) flexibility: producing either flat or beamed ceiling surfaces with or without recessed troffer lighting or acoustical treatment, in metal gages and gage combinations to suit your need.

Find out what quality-made Mahon Long-Span M-Decks can do for you . . . your work . . . your costs by talking with your local Mahon architectural representative, consult Sweet's Files or write for information Catalog LSD-60.



MAHON BUILDING PRODUCTS

- Aluminum or Steel Curtain Walls (in natural or colored metals)
- Rolling Steel Doors (Standard or Underwriters' labeled)
- Metalclad Fire Walls (Underwriters' rated)
- M-Floors (Steel Cellular Sub-Floors)
- Long Span M-Deck (Cellular or Open Beam)
- Steel Roof Deck
- Acoustical and Troffer Forms
- Acoustical Metal Walls, Partitions and Roof Decks
- Permanent Concrete Floor Forms

CONSTRUCTION SERVICES

- Structural Steel-Fabrication and Erection
- Steel Fabrication-Weldments

THE R. C. MAHON COMPANY
Detroit 34, Michigan

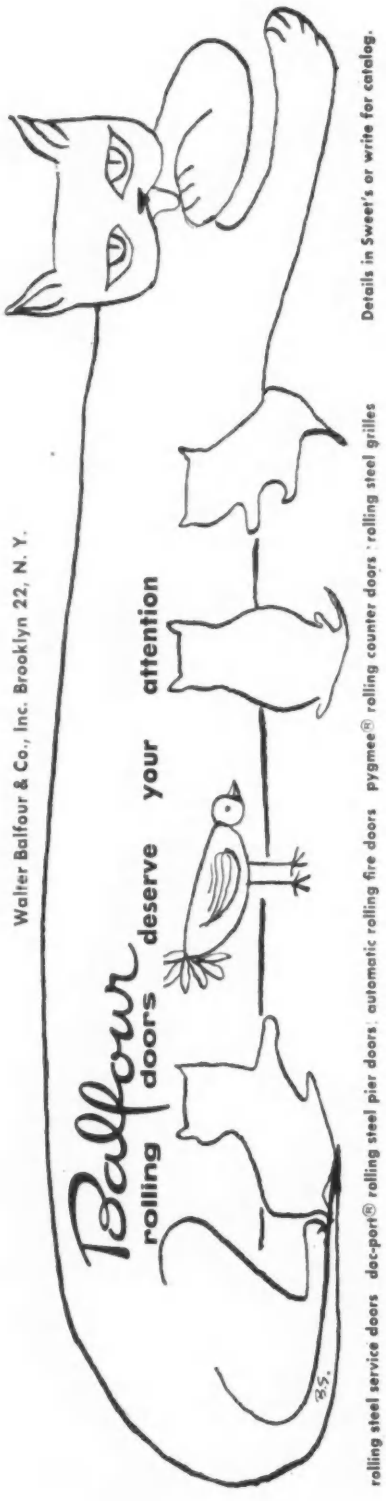
Manufacturing Plants—Detroit, Michigan and Los Angeles, California

Sales-Engineering Offices in Detroit, New York, Chicago, Los Angeles and San Francisco.

Representatives in all principal cities.

SPEEDING AMERICAN CONSTRUCTION WITH METAL BUILDING PRODUCTS, FABRICATED EQUIPMENT AND ERECTION SERVICES

MAHON



Required Reading

continued from page 374

Received . . .
besides photographs, includes plans, details, considerable information on structure, materials, equipment and costs, as well as periodical references for each building.

TOWN DESIGN. *By Frederick Gibberd. Frederick A. Praeger, Inc., 64 University Place, New York 3. 316 pp., illus. $15.*
A new edition of the author's 1953 study of town planning as an art, revised, enlarged and brought up to date.

RESTAURANTS, CAFES, BARS. *By Alexander Koch. Verlagsanstalt Alexander Koch, Gmbh., Haupstätter Strasse 87, Stuttgart 5, Germany. 412 pp., illus. 105 DM ($27.50).*
A picture and plan collection of eating establishments, mostly in Europe and the U.S., including Stuttgart's unusual television tower restaurant and Zurich's oddly named "Tabaris Whisky Galore." Text and captions for the very satisfactory photographs are all in German, French and English.

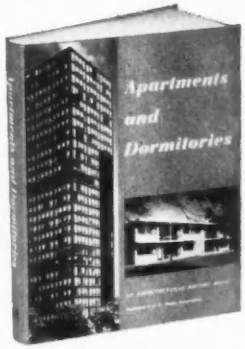
TRIUMPH ON FAIRMOUNT: FISKE KIMBALL AND THE PHILADELPHIA MUSEUM. *By George & Mary Roberts. J. B. Lippincott Co., E. Washington Sq., Philadelphia. 321 pp., illus. $6.*
An account of the career of one of that generation of men who were erudite, energetic, opinionated, colorful and dedicated; by combined techniques of persuasion, publicity, charm and sheer force of conviction, Kimball induced the public—particularly the moneyed public—to help him build a fine museum.

CLEAN AND DECENT. *By Lawrence Wright. The Viking Press, 625 Madison Ave., New York 22. 282 pp., illus. $4.95.*
A scholarly, if not exactly serious, history of the bathroom and the water closet, in which the antique illustrations outclass the text.

GUIDE TO ART REFERENCE BOOKS. *By Mary Chamberlin. American Library Association, 50 E. Huron St., Chicago 11. 448 pp. $10.*

the complete survey of multiple dwellings

APARTMENTS and DORMITORIES



by the editors of Architectural Record
238 pp, large 8¾ x 11⅝" size
over 275 photographs
over 200 other illustrations

only $8.95

The latest, most complete source of information on this building type. In expertly-authored text and over 475 illustrations, are shown some 51 multiple dwellings of all sizes, plus additional material on social and technical considerations.

Opens with a general section on building multiple dwellings. Here are discussed the economics of shelter, housing patterns, and technical studies on heating, elevators, cost-saving apartment designs, and engineering details.

The next four sections are arranged as follows:

COMMUNITY-SCALE PROJECTS
LARGE PROJECTS
SMALL PROJECTS
CAMPUS DORMITORIES AND APARTMENTS

Thus the entire range of multiple housing is covered, from huge apartment cities housing thousands of families, to small apartments for 2, 4, or 10 families. In the campus section are shown dormitories for men and women, and apartments for faculty members and married students.

Every one of these projects is the work of a gifted architect — some of these are famous, some are not yet. They include Edward D. Stone, Mies van der Rohe, Frank Lloyd Wright, and Walter Gropius.

Order your copy of this comprehensive work today, on ten-day free trial, using the coupon below.

DODGE BOOKS, F. W. Dodge Corp.
119 W. 40th St., New York 18, N.Y.

Send my copy of APARTMENTS AND DORMITORIES for 10 days free use. At the end of that time, I will either remit $8.95 plus postage, or return the book without obligation.

Name.....
Address.....
City.....State.....
414



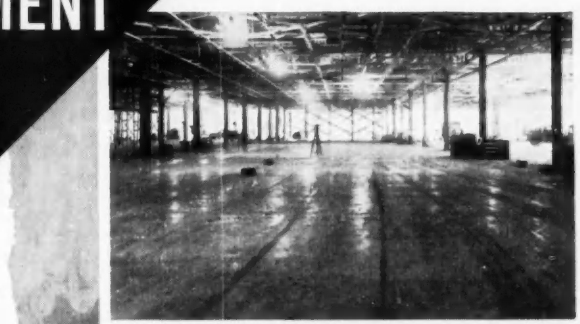
SEE a demonstration by a specialist

CONCRETE FLOOR TREATMENT

Saves • TIME
• MATERIAL
• LABOR

ONE PRODUCT
ONE APPLICATION
4-WAY PROTECTION

Western Electric Plant, Columbus, Ohio



1—CURES
2—HARDENS
3—SEALS
4—DUSTPROOFS

WEST CONCRETE FLOOR TREATMENT saves labor, materials and time. It can be applied immediately after troweling. Avoids delays after pouring. Replaces as many as three separate products and applications. Eliminates labor required for cleaning after delayed drying between the use of separate products.

for FREE demonstration or literature address:
WEST CHEMICAL PRODUCTS INC., 42-46 West St., Long Island City 1, N. Y.
Branches in principal cities • IN CANADA: 5621-23 Casgrain Ave., Montreal

WEST CHEMICAL PRODUCTS INC.



AERO-BOARD

Air Powered Hydraulic DOCKBOARDS

IN NEW Construction or Remodeling

CUSTOM ENGINEERING SERVICE AVAILABLE

Freightliner will Custom Engineer AERO-BOARDS to FIT your capacity requirements and installation specifications.

CHECK THESE ADVANTAGES:

Low Initial Cost • Inexpensive to Install and Operate • Stores Upright — out of the way • Manual-automatic-"Air-over-Oil" activated — from power supplied by air system standard on many docks • Safe — One Man Operation • No Electrical power required at dockboard • Standard, 10,000 lb. cap. model adaptable to most installations.

AERO-BOARD, ready to install . . $410.00

Write for your copy of the AERO-BOARD specification brochure. It includes detailed AERO-BOARD specifications, photos, installation diagrams, air compressor requirements, name of local supplier.

AERO-BOARDS are sold and serviced by Leading Materials Handling Equipment Distributors.

Mfd. by FREIGHTLINER CORPORATION Dept. 5A, Box 3591 Portland 8, Oregon

not for everyone . . .
but for you who want *elegance* in a durable wallcovering that also hushes room noise.

specify

Hushalon®

ACOUSTIC FELT WALLCOVERING

23 DRAMATIC COLORS **54" WIDE**

HUSHALON DESIGN HONORS:
I. M. Pei Assoc. for the **DENVER-HILTON HOTEL**

Central

FELT AND FABRICS CORP.
24 W. 25th ST., NEW YORK 10, N. Y.
T. M. AMERICAN FELT CO.

WRITE FOR FULL DATA



announces:

A HISTORY-MAKING STUDY with the aid of Dodge Reports of a full year's building planning activity by over 1,100 architectural and architectural-engineering firms in New York State.

89.8 PERCENT COVERAGE by paid subscription of $3 billion of new projects designed by these firms.

This New York State study is the 28th in a series of statewide studies* by Architectural Record of the number and dollar volume of 15 major types of projects planned by architects and their engineers—and the Record's coverage of these markets. (For a full report return the coupon at right.)

*Other studies based on *Dodge Reports:* Connecticut, Delaware, Illinois, Indiana, Kansas, Kentucky, Louisiana, Maine, Massachusetts, Michigan, Mississippi, Nebraska, New Hampshire, North Dakota, Ohio, Oklahoma, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Vermont, Virginia. Special studies: California, Washington, Oregon.



SCOPE OF THE STUDY

The Record's New York State study includes ALL new building projects planned by architects and their engineers in the 12-month period ending September 1, 1959 as reported by F. W. Dodge Corporation's *Dodge Reports.*

Specifically, the study covers 26,667 new building projects... $3,007,200,000 of work by 1,107 firms.

The projects are classified by 15 major types and a separate tabulation has been prepared for planning activity in the 5 Boroughs of New York City.

Architectural Record's Coverage

Architectural Record has determined its coverage *by architect and engineer subscriptions alone* of each segment of the New York State building market.

The summary table below shows that Record's coverage of nine out of ten architect-planned building dollars in New York State closely parallels its coverage of the country as a whole.

Percentage Coverage by Architectural Record of Architect and Architect-Engineer Planned Building (as documented by Dodge Reports)

		New York State	Combined Statewide Studies
NON RESIDENTIAL	Projects	77.6	83.5
	Dollar Volume	93.0	94.1
ALL TYPES	Projects	80.4	74.3
	Dollar Volume	89.8	89.9

Again Architectural Record is Five Ways Your Best Buy

1. Top verifiable market coverage— over 89% coverage of architect and architect-engineer planned building — nonresidential and residential, small and large.

2. Largest architect and engineer paid circulation in the field EVER!

3. Preferred readership as revealed by 140 out of 155 studies sponsored by building product manufacturers and their advertising agencies.

4. Editorial leadership in quantity and in quality of service to architects and their engineers.

5. Advertising leadership— in advertising pages and number of advertisers, for the 14th year in a row.

an F. W. DODGE CORPORATION publication

ABC ABP

Architectural Record

119 West 40th Street
New York 18, N. Y.

"workbook of the active architect and engineer"

To Architectural Record

I'd like your full report on New York State as soon as it's off the press. ☐

Also send me your combined states summary. ☐

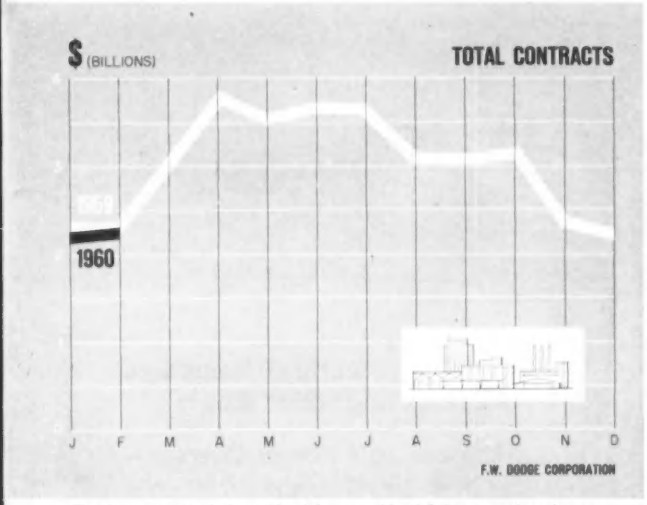
Name_____

Title_____

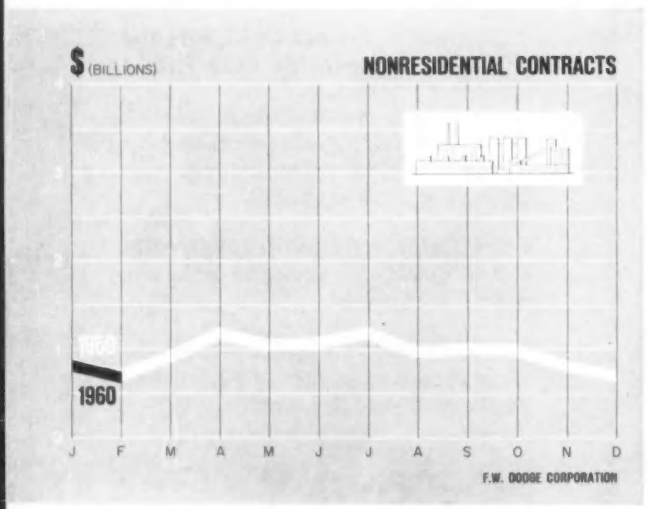
Company_____

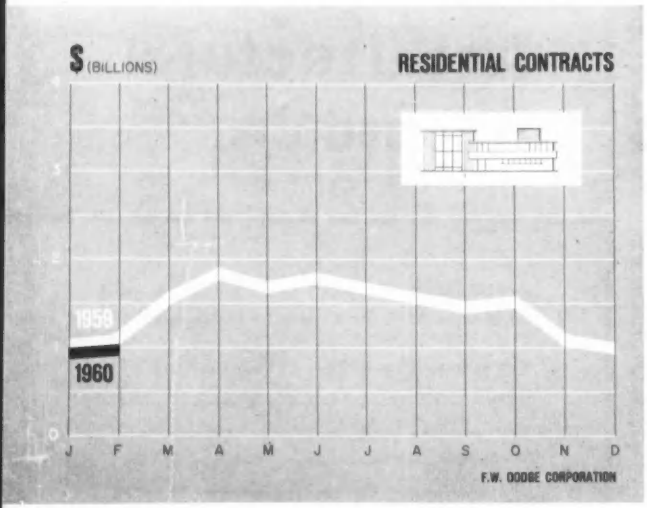
Street_____

City_____ State_____



Total contracts include residential, nonresidential, heavy engineering contracts





SCHOOLS in 1960 continue to make up the third largest market for the services of architects, as well as for all the other materials and services that go into building. Only single-family houses and commercial buildings outrank schools among the residential and non-residential building categories. In fact, if all construction, including heavy engineering, is considered, schools still constitute the fourth largest market, ranking behind housing, highways and commercial buildings in that order.

THERE seems to be no reason to expect this situation to change radically in the next decade or so. "Schools" as used here is a broad term encompassing all educational and related buildings, including colleges. In this sense the school market promises to be in a continuing boom. The wave of children now going through elementary and secondary schools will progress through college during the 1960's. Consider this fascinating fact: in one year, during the mid-sixties, the number of persons reaching age 18 will increase by one million. In September 1965, there will be approximately one million more 18-year-olds than there were a year earlier. Assume that half of these people want to go to college; then in September 1965 our college registrars will find 500,000 *more* prospective freshmen banging on the doors than they had only a year earlier. And that day is barely five years away. If this is a hair-raising thought, just remember that the same problem is going to hit our high schools four years earlier—and that's next year.

BUT the population growth figures alone tell only a part of the story. There is some ground for believing that we will need even more school facilities—at secondary and higher levels—than population growth alone would require. In the first place, education is steadily becoming more respectable. This is not something new; between 1940 and 1959 the educational attainment of the average working man in the United States rose from 9.1 years to 12.0 years. In other words, each student stays in school now about 1/3 longer than in 1940, and thereby requires at least 1/3 more classroom space during his educational career. One of the more interesting aspects of the new emphasis on education is that the average professional or technical worker now has 16.2 years of education, the equivalent of some post graduate work.

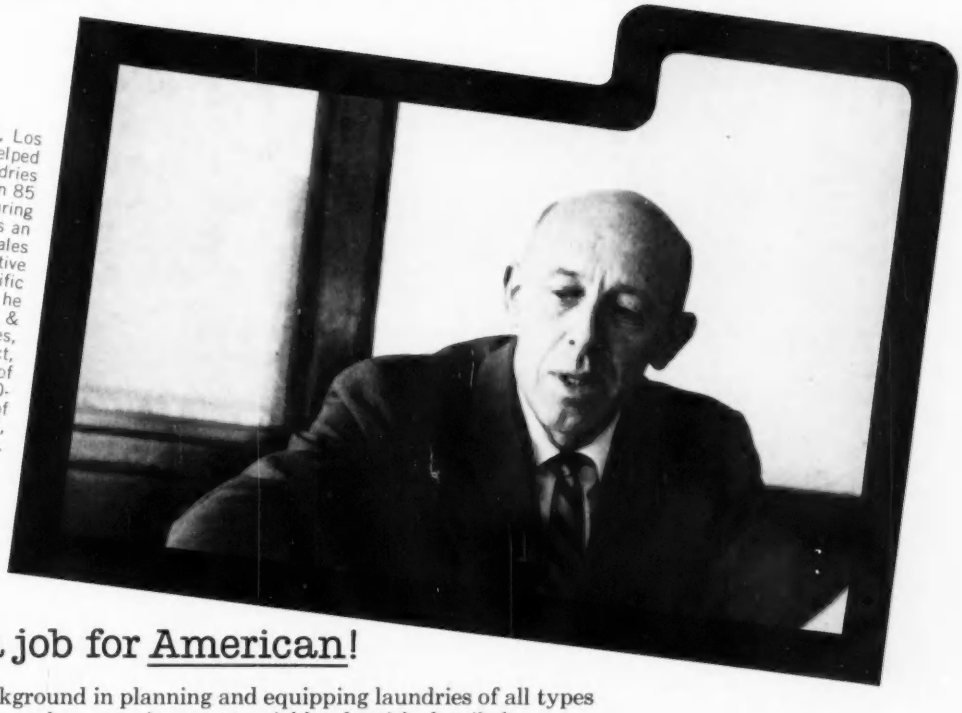
THIS lengthening of the educational period took place in the era before the sputnik-engendered emphasis on education had any real effect. We can expect that the future will put more stress on length of schooling as well as on better quality. High school diplomas will become the minimum for many more types of jobs, and advanced college degrees will become common. All this adds up to the promise of continued demand for additional school buildings. The greatest emphasis will be on secondary and higher levels of education. The demand for elementary school buildings should remain strong, however, to take care of population growth, the development of new areas, and the replacement of existing buildings which are sub-standard or obsolete.

GEORGE CLINE SMITH
Vice President and Chief Economist
F. W. Dodge Corporation



Little Company of Mary Hospital, Torrance, Calif. Architect: Verge & Clatworthy & Associates, Los Angeles, Calif.

when your project involves a laundry department...



Ben J. Heath, Los Angeles, Calif., has helped architects plan laundries for more than 85 different projects during his 15 years as an Institutional Sales Representative for American's Pacific Division. Recently he assisted Verge & Clatworthy & Associates, Los Angeles architect, in the preparation of laundry plans for the 150-bed Little Company of Mary Hospital, Torrance, Calif.

it's a job for American!

Our extensive background in planning and equipping laundries of all types enables us to analyze requirements quickly, furnish detailed recommendations which assure your clients of the most efficient, economical-to-operate laundry for their particular needs. These recommendations need simply be integrated into the overall building design.

The specialized knowledge and experience needed to help architects and engineers design modern, efficient laundry facilities make American representatives valued members of building project teams.

Rely on the experience that has proved itself in hundreds of successful installations. When your project involves a laundry department . . . call your nearby American office or representative (listed in the yellow pages), or write our Cincinnati office for complete information.

You get more from American

The American Laundry Machinery Company, Cincinnati 12, Ohio

Index to Advertising

PRE-FILED CATALOGS of the manufacturers listed below are available in the 1960 Sweet's Catalog Files as follows: (A) Architectural File (green), (IC) Industrial Construction File (blue), (LC) Light-Construction File (yellow).

A-IC AA Wire Products Co. 24
A-IC Adam Electric Co., Frank 309
A Adams-Rite Manufacturing Co.. 48
A Adams & Westlake Company ... 137
Advance Transformer Co. 45
Aerofin Corporation 365
A Aetna Steel Products Corporation 96-97
Ainsworth Lighting, Inc. 351
Air Devices, Inc. 90
Albina Engine & Machine Works 44
A-IC-LC Aluminum Company of America 103
IC American Air Filter Co., Inc. 141 to 143
A-LC American Brass Company 11
American District Telegraph Co. 82
American Duckbridge, Inc. 362
American Gas Association ... 122-123
A American Granwood Company.. 255
American Laundry Machinery Co., The 385
A American Louver Company.... 240
American Sisalkraft Corp. 71
American Steel & Wire Div... 138-139
Architectural Record 382-383
A-IC Armco Drainage & Metal Products 50-51
Armco Steel 301
A-IC-LC Armstrong Cork Company 26-27

A-IC Balfour & Co., Inc., Walter.... 380
A Bally Case and Cooler, Inc. 373
A-IC Barber-Colman Company 388
A-IC Bayley Co., The William 266
A Beckley-Cardy Co. 56
A-LC Bell & Gossett Co. 293
Benjamin Division, Thomas Industries 299-300
A-IC Bethlehem Steel Company 76-77, 306-307
Boeckh, E. H. & Associates 377
A Bogen-Presto, Inc. 304
A-IC Borden Metal Products Co. 61
A Brunswick-Balke-Collender Co. 33 to 36
Buensod-Stacey Corp. 313
Bulldog Electric Products Co. 282-283
A Burgess-Manning Company 318
Burlington Industries 32
A-IC Burt Manufacturing Co., The.. 248
A-IC Byers Company, A. M. 4

A-LC California Redwood Association 72-73
A-LC Caradco, Inc. 136
A-IC-LC Carrier Corporation 104, 294-295
A Caterpillar Tractor Co. 120
A-IC Ceco Steel Products Corporation 117, 119, 121
Central Felt and Fabrics Corp... 381
Ceramic Tile Panels, Inc. 63
A Ceresit Corp. 375
A-IC-LC Chrysler Airtemp Division, Chrysler Corporation 83
Cincinnati Time Recorder Co. .. 47
Committee on Steel Pipe Research 333
A-IC Concrete Reinforcing Steel Institute 274
A Connor Engineering Corporation 108
A Connor Lumber and Land Co... 370
A Contrex Company 292
A Cook Company, Loren 344
A Corbin Division, P & F 102
A-LC Crane Co. 290-291

Da-Lite Screen Co., Inc. 276
Dayton Rubber Co., The 242
A-LC Devoe & Reynolds Company, Inc. 340
Dodge Books 376, 380
Dodge Reports 364
A-LC Donley Brothers Co., The 84
A-IC-LC Douglas Fir Plywood Association 134-135
Dow Building Cost Calculator.. 372
A-IC-LC Dow Chemical Co., The 354-355
A Dow Corning Corp. 305
A Duke Manufacturing Co. 87
IC DuPont de Nemours & Co., Inc., E. I. 106
A-LC Dur-O-Wal, Inc. 85

A Eastern Products Co. 246
A-IC Ebco Manufacturing Co., The.. 332
A-LC Engineered Products Co., The.. 116
A-IC Executone, Inc. 260

A Fairhurst Co., Inc., John T. 247
A Federal Seaboard Terra Cotta Corp. 253
A-LC Fiat Metal Manufacturing Co. 100-101, 245
Flexforms, Inc. 373
A-IC-LC Flintkote Co., The 62, 308, 325
A-IC Flynn Mfg. Co., Michael 326-327
Formed Steel Tube Institute, Inc. 289
Freightliner Corporation 381

A General Air Conditioning Corp. 377
A General Bronze Corp. 249
A-IC-LC General Electric Co. 348, 369
General Fireproofing Co., The .. 133
A-LC Geneva Modern Kitchens 53
A Goodyear, Flooring Dept. Goodyear Tire & Rubber Company 1
A-IC Granco Steel Products Co. 16-17
A Gridwall Company 67
A Guth Company, Edwin F. 19

Hager & Sons Hinge Mfg. Co., C. 321
A Hanley Company 111
A Harter Corporation 317
A Haughton Elevator Co. 334-335
A Haws Drinking Faucet Company 328
A Horn Companies, A. C. 52
A Huntington Laboratories, Inc... 298

A Imperial Brass Mfg. Co., The.. 254
Ingalls Iron Works Co., The.. 370-371
A-IC-LC Inland Steel Products Co. 91, 130-131

A Jamison Cold Storage Door Co... 363
A Janitrol Heating & Air Conditioning 279-280
A Jenn-Air Products Company, Inc. 324
A-IC-LC Johns-Manville 38-39, 258-259
Jones Metal Products Co., The.. 322

A-IC-LC Keasbey & Mattison Company.. 140
A Kennatrack Corporation 262
A-LC Kentile, Inc. 55
A-IC-LC Keystone Steel & Wire Co. 92-93
A-IC-LC Kimberly-Clark Corp. 269
A-IC Kinnear Mfg. Corp., The 272
Kohler Co. 30-31
Koppers Co., Inc., Metal Products Div. 98
LC Koppers Co., Inc., Plastics Division 275
A-IC Koppers Co., Inc., Tar Products Div. 112

A-IC Laclede Steel Co. 86
A-IC Larsen Products Corp. 356
Lawrence Paper Company 351
A LCN Closers, Inc. 264-265
A Le Febure Corporation 362
Lehigh Portland Cement Co. .. 350
Leopold Company, The 116
A-IC-LC Libbey-Owens-Ford Glass Co. 286-287
A Linen Supply Association of America 74
A-LC Louisville Cement Company .. 79

A-IC Mahon, R. C. Company..... 378-379
A-IC-LC Masonite Corporation 337
Masterfreeze Corp. 375
A Mastic Tile Div., The Ruberoid Co. 329
McLouth Steel Corp. 341
A Medart Products Co., Inc., Fred 376
A Met-L-Wood Corp. 288
Midget Louver Company 373
Modern Hospital, The 316
Moe Light Div., Thomas Industries 65
A Mosaic Tile Co., The 69-70
A Murray Tile Company 319

A-IC-LC Natco Corporation 297
A-IC National Gypsum Co. 342-343
A National Plastic Products Co., The 128-129
National Pool Equipment Co. .. 320
A National Terrazzo and Mosaic Assoc. 323
Nation's Schools, The 368
A Neo-Ray Products, Inc. 278
Nesbitt Inc., John J. 22-23
A New Castle Products, Inc. Third Cover
A New York Silicate Book Slate Co., Inc. 8
Nibco, Inc. 57
A Norman Products Co. 238
A Norton Door Closers 114

Oakite Products, Inc. 42
Osmose Wood Preserving Co. of America, Inc. 268

A Otis Elevator Company 113
A-IC-LC Overhead Door Corp. 310-311
A-IC-LC Owens-Corning Fiberglas Corp. 263

Paper Cup & Container Institute, Inc., The 374
A-IC Peelle Company, The 237
A Penn Metal Company, Inc. 124
A-LC Pittsburgh Plate Glass Co. .. 346-347
A-IC Pittsburgh Steel Co. 330-331
Porter Co., Inc., H. K. 345
A-IC-LC Portland Cement Association .. 59
Power-Strut Division 312
A Pratt & Lambert, Inc. 261
A-LC Precision Parts Corporation .. 377
A-IC Prescon Corp., The 373

A Radio Corporation of America.. 109
Rauland-Borg Corporation 374
A-IC-LC Raynor Mfg. Co. 296
Reproduction Engineering Corp. 128
A Republic Steel Corp. 314-315
A-IC Richards-Wilcox Mfg. Co. 281
A-LC Rilco Laminated Products, Inc... 252
A Rixson Company, Oscar C. 349
A-LC Roddis Plywood Corporation.... 78
A-IC Roebling's Sons Division, John A., Colorado Fuel and Iron Corporation 99
A Rohm & Haas Company 267
A-LC Rolscreen Co. 125, 127
A-IC Rotary Lift Company 2-3
A-LC Rowe Manufacturing Co. 352
Royal Metal Manufacturing Co.. 49
A-IC-LC Ruberoid Co., The 144

A St. Charles Manufacturing Co... 110
A Sanymetal Products, Inc. 285
Sarco Co., Inc. 94
A Sargent & Greenleaf, Inc. 375
A Seaporcel Metals, Inc. 361
A-IC Shlagro Steel Products Corp. 366
A Simmons Company 118
A-IC Sloan Valve Company ....4th Cover
A Smith Corp., A. O. 128
A-IC Smith & Co., Elwin G. 257
Square D Company 88-89
Staedtler, Inc., J. S. 41
A-IC Stark Ceramics, Inc. 115
A-IC Steel Joist Institute 29
Stem Inc., Chester B. 302-303
A-IC Stran-Steel Corporation 353
Structural Clay Products Institute 107
A Structural Slate Co., The 336
A-LC Stylon Corporation 376
A Sulzer Brothers 356
A Summitville Tiles, Inc. ....2nd Cover
A Sun Chemical Corp. 52
A Surface Combustion Corporation 279-280
Sweet's Catalog Service 386
A Sylvania Electric Products, Inc. 58

A T & S Brass and Bronze Works, Inc. 244
A-IC Taylor Co., Halsey W. 256
A-IC Tectum Corporation 126
A Thomas Industries, Inc. 65
A Tile Council of America, Inc.. 46-47
A Timber Structures, Inc. 277
A Titus Mfg. Corp. 270-271
A Toledo Scale Corporation 18
A Torjeson, Inc. 387
A Tremco Mfg. Co., The 132
A Trinity White Division, Portland Cement 21

A-IC-LC United States Gypsum 250-251
IC United States Steel Corp. (Subs.) 43, 138-139
A Universal Atlas Cement 43
A-IC Upco Co., The 284
U. S. Stoneware 68

A Vogel-Peterson Co. 366
A Vonnegut Hardware Co. 367

Wade Manufacturing Co. 40
Warren Webster & Co., Inc. .. 273
A Wasco Products, Inc. 37
A Washington Steel Corporation.. 7
A Weis Mfg. Co., Henry 105
A West Chemical Products, Inc... 381
A-IC-LC West Coast Lumbermen's Association 95
A-IC-LC Westinghouse Electric Corp. 80-81, 338-339, 357 to 360
A Wilkinson Chutes, Inc. 116
A Williams Equipment & Supply Co. 244

A-LC York Corporation 66
A Young Regulator Company 371
Yuba Consolidated Industries, Inc. 75

New York—Claude B. Riemersma, Sales Manager, Tom Tredwell, Advertising Mgr.; Blake Hughes, Marketing Mgr.; Richard C. Crabtree, Business Mgr., Benton B. Orwig, Director of New Business Development; Joseph R. Wunk, Advertising Production Mgr.; Harry M. Horn, Jr.; Michael J. Davin, 119 W. 40 St.; BOSTON—Harry M. Horn, Jr., 355 Park Square Bldg.; BUFFALO—Benton B. Orwig, 70 Niagara St.; CHICAGO—Claude B. Riemersma, Sales Mgr.; Robert T. Franden, David K. Bortz, James A. Anderson, Charles L. Reed, Jr., 919 N. Michigan Ave.; CLEVELAND—John C. Jackson, Regional Mgr.; Joseph F. Palmer, Louis F. Kutscher, 321 Hanna Bldg.; LOS ANGELES—Wettstein, Nowell & Johnson, Inc., 672 S. Lafayette Park Pl.; MIAMI—Benton B. Orwig, 802 N. W. First St.; PHILADELPHIA—Tom Tredwell, Harry M. Horn, Jr., 1321 Arch St.; PITTSBURGH—John C. Jackson, 411 Seventh Ave.; PORTLAND—Wettstein, Nowell & Johnson, Inc., 1921 S. W. Washington St.; ST. LOUIS—Robert T. Franden, John I. Howell, 3842 W. Pine Blvd.; SAN FRANCISCO—Wettstein, Nowell & Johnson, Inc., 417 Market St.

A-IC-LC

These symbols tell you which advertisers' catalogs are INSTANTLY ACCESSIBLE in your office

The great majority of *Architectural Record* advertisers employ Sweet's Catalog Service to maintain their catalogs continuously in architectural, engineering and building-contractor offices.

By doing so, these manufacturers make it easier than is otherwise possible for you always to have instant access to further information about their products or services.

The above symbols* are included in the facing Advertisers' Index as a quick guide to which advertisers' catalogs are in *your* Sweet's File—classified by product type, indexed, up-to-date, and always ready for use whenever you want them.

Sweet's Catalog Service
Division—F. W. Dodge Corporation
119 West 40th Street
New York 18, N. Y.

*A (Architectural Catalog File)
IC (Industrial Construction Catalog File)
LC (Light Construction Catalog File)

A complete line of Electric and Manual Folding Partitions

Torjesen



...of six folding partitions installed at Jackson Lake Lodge, Moran, Wyoming. Architect: Spencer and Lee

✻ **AUTOMATIC ELECTRIC PARTITIONS**

✻ **MANUAL PARTITIONS**
(a) Top Hung — Center Pivot — All Hinged
(b) Top Hung — Center Pivot — Pair or Individually Operated
(c) Top Hung — Edge Pivot — Pair Operated
(d) Bottom Bearing — Edge Pivot — Pair Operated
(e) Bottom Bearing Edge Pivot — Individually Operated

✻ **HIDDEN PARTITIONS**
• No Floor Track • No Exposed Hardware
• Remote Stacking

now available at the same price as Duck or Vinyl

Torjesen "WALL-A-WAY" Folding Partitions with TOROPLY

America's newest, most economical, pre-finished wood paneling, in a choice of rich finishes. In addition to its economy and durability there is no finishing required or necessary. Toroply is impervious to stains such as ink, crayon, lipstick, etc. **Samples and test results on request.**

Write for fully detailed catalog with 3" scale drawings

Visit our plant and tour its facilities

TORJESEN, INC.
209-25th St., Brooklyn 32, N.Y.
Cabinet Makers since 1919

Over 50 representatives in key cities to serve you

Affiliates:
BAR-RAY PRODUCTS, INC. • X-Ray Accessories and Radiation Protection
CAPITAL CUBICLE CO., INC. • Cubicle and Track





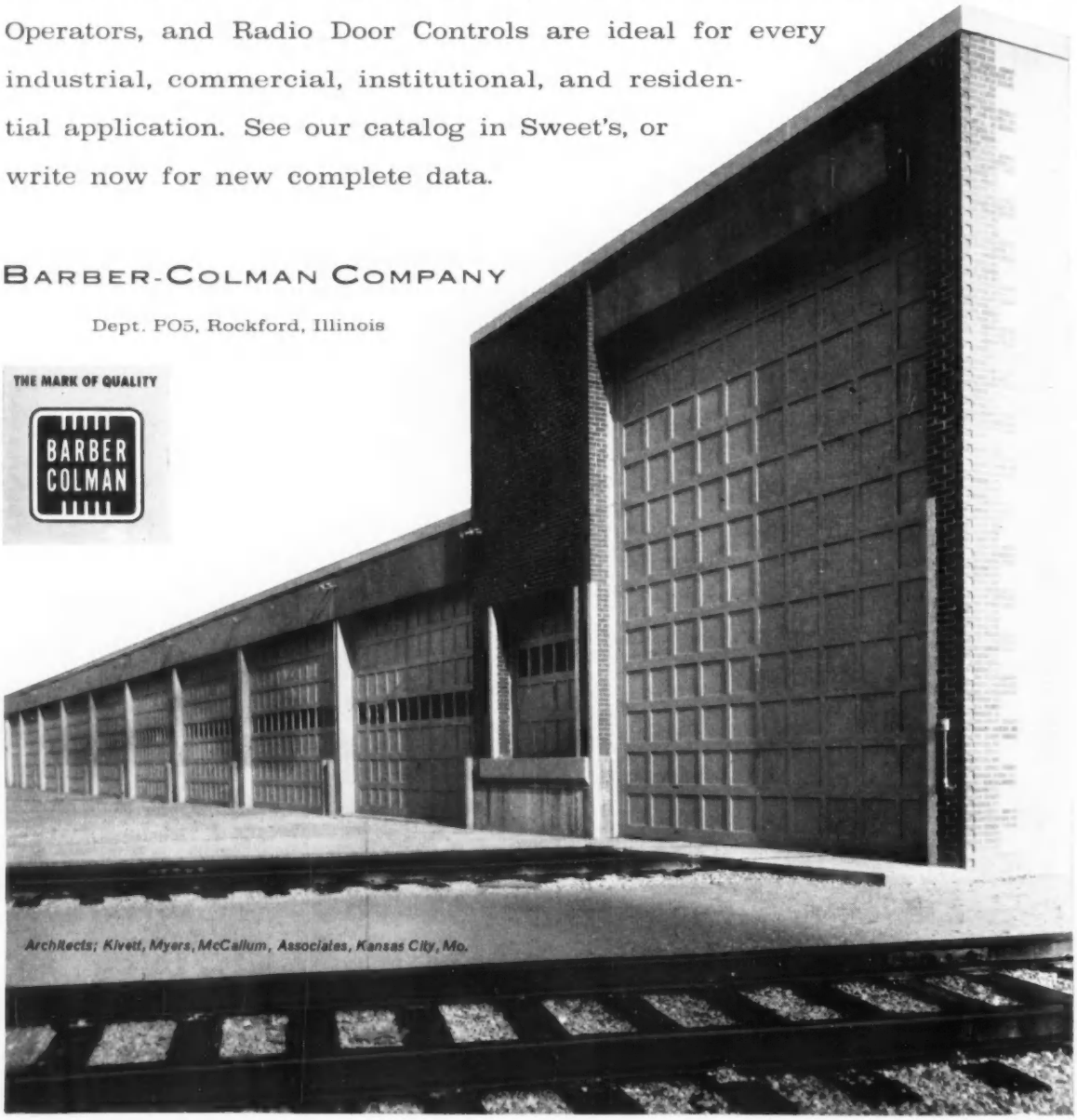
By rail and truck, thousands of products move continuously in and out of the **BUSY** Consolidated Foods Company warehouse in Kansas City, Mo., through 11 Barber-Colman OVERdoors. Positive, accurate closure assures complete protection for both food and non-food products through severe weather, temperature, and humidity conditions. Electrically operated OVERdoors open quickly, smoothly—provide dependable operation essential to efficient, economical warehousing. Barber-Colman OVERdoors, Electric Operators, and Radio Door Controls are ideal for every industrial, commercial, institutional, and residential application. See our catalog in Sweet's, or write now for new complete data.

BARBER-COLMAN COMPANY

Dept. PO5, Rockford, Illinois

THE MARK OF QUALITY

BARBER COLMAN



ArchRects; Kivett, Myers, McCallum, Associates, Kansas City, Mo.

New . . . from MODERNFOLD

Class "A" fire rating!

A tunnel test fire spread rate just *one-tenth* that of the ASTM comparison material (red oak) has qualified Modernfold fabrics for the coveted Class A fire rating . . . a first in the folding door industry.* Modernfold "27" and "45" fabrics proved conclusively they will not support flame. You're assured of complying with all fire codes.

*Laboratory certification available.



Super tough fabric!

Nuca-tex 45*...60% heavier...100% tougher. Abuse that takes heavy toll of standard weight fabrics leaves new Nuca-tex 45 unmarred and ready for more. In hard-use areas . . . school, church classroom, hospital, hotel and motel . . . Nuca-tex 45 is a handsome and durable answer. You may specify Nuca-tex 45 in any of six magnificent new colors on any Modernfold.

*Number shows ounces per lineal yard. All Modernfold fabrics are designated by weight, i.e., "27" "30" and "45."

Tests made under ASTM standards	Standard Industry Fabric	**Nuca-tex 45 by Modernfold**
Weight	27 oz./Lineal yd.	45 oz./Lineal yd.
Tear Strength	5 lbs.	13 lbs.
Abrasion	1000 cycles	2000 cycles
Bursting strength	150 lbs.	225 lbs.



modernfold
DOORS
®

NEW CASTLE PRODUCTS, INC. • NEW CASTLE, INDIANA

In Canada: New Castle Products Canada, Ltd., St. Lambert, Que.

You pay no more for unequalled SLOAN quality...

5 good reasons WHY your choice should be ROYAL



The Sloan ROYAL Flush Valve is the standard of comparison by which all other flush valves are judged. Only the ROYAL provides all of the quality features demanded in modern flush valves, which are—

Segment Diaphragm • Natural rubber vulcanized to brass reinforcements affords added strength and provides extra-long service life

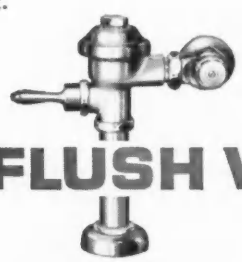
Inside Cover • Not only protects, but controls the flexing action of the diaphragm—while in cooperation with the outside cover, it makes a stronger union of both body and cover

No regulation • A uniform flush every time with nothing to get out of order, means service and water economy you can take for granted

Non-hold-open • A Sloan Royal will complete its cycle and shut off automatically, whether the handle is held or released—another important water saving feature

Double-handle openings • Concealed Royals rough-in either right hand or left hand. This flexibility solves unforeseen problems on the job

These are the quality features which account for the ROYAL's overwhelming popularity, and sustain its leadership as the Flush Valve of universal preference. They are further examples of that bonus of quality you expect from Sloan. And, since you can have Sloan quality at no extra cost, why not make sure you get it.



SLOAN FLUSH VALVES

SLOAN VALVE COMPANY • 4300 WEST LAKE STREET • CHICAGO 24, ILLINOIS